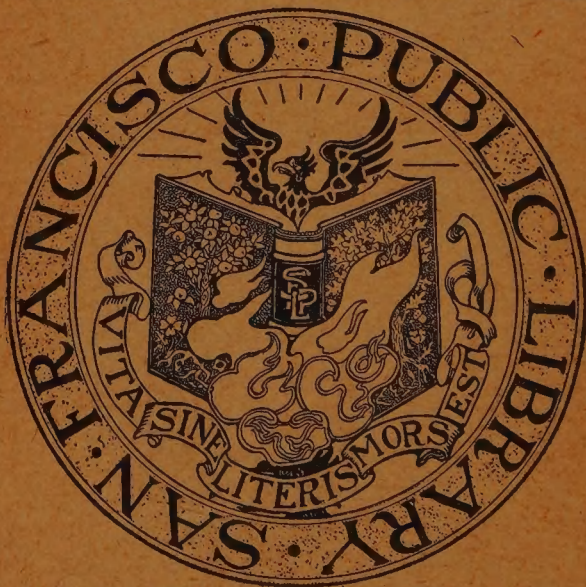






Book No.  
B L6492C<sup>22</sup>

ACCESSION  
143087



Form 16 20M 10-28-19



SAN FRANCISCO PUBLIC LIBRARY



3 1223 00361 5102





A CHAPTER  
IN SWEDISH HISTORY

VOL. II.

PRINTED BY  
SPOTTISWOODE AND CO., NEW-STREET SQUARE  
LONDON







LINNÆUS RETURNS FROM ABROAD



# THROUGH THE FIELDS WITH LINNÆUS

A CHAPTER IN SWEDISH HISTORY

BY

MRS FLORENCE CADDY

AUTHOR OF 'FOOTSTEPS OF JEANNE D'ARC' ETC.

IN TWO VOLUMES—VOL. II.



VIEW OF WISBY IN GOTLAND.

LONDON  
LONGMANS, GREEN, AND CO.  
1887

*All rights reserved*

B

L 6492c 2

143087

3 1223 00361 5102



# CONTENTS

OF

## THE SECOND VOLUME.



CHAPTER	PAGE
XIII. AN OVERDOSE OF PROSPERITY . . . . .	1
XIV. HOMEWARD BOUND . . . . .	36
XV. LIFE AT STOCKHOLM . . . . .	64
XVI. ÖLAND AND GOTHLAND . . . . .	92
XVII. THE DREAM FULFILLED . . . . .	141
XVIII. WÄSTGOTA RESA—ROUND THE VENERN LAKE . . . . .	163
XIX. HIS WORK FOR POSTERITY . . . . .	212
XX. TOUR IN SKÅNE . . . . .	249
XXI. THE KNIGHT OF THE POLAR STAR . . . . .	280
XXII. ST. MARTIN'S SUMMER—LINNÆUS'S SILVER WEDDING . . . . .	322
XXIII. THE LAST . . . . .	360





## ILLUSTRATIONS IN VOL. II.



LINNÆUS RETURNS FROM ABROAD . . .	<i>Frontispiece</i>
VIEW OF WISBY, IN GOTHLAND . . .	<i>Vignette title</i>
PALACE OF DROTTHINGHOLM . . .	<i>To face page 306</i>



### MAP.

*(At end of volume)*

LINNÆUS'S FOUR TOURS IN SOUTHERN SWEDEN





# THROUGH THE FIELDS WITH LINNÆUS

---

## CHAPTER XIII.

### AN OVERDOSE OF PROSPERITY.

Ah, but the bride, meantime—do you think she sees it as he does?  
But for the steady fore-sense of a freer and larger existence,  
Think you that man could consent to be circumscribed here into  
action?

But for assurance within of a limitless ocean divine, o'er  
Whose great tranquil depths unconscious the wind-tost surface  
Breaks into ripples of trouble that come and change and endure not—  
But that in this, of a truth, we have our being, and know it,  
Think you we men could submit to live and move as we do here?  
Ah, but the women — God bless them! — they don't think at all  
about it.—A. H. CLOUGH.

LINNÆUS returned to Holland, where he enriched Clifford's garden with many living plants, and his herbarium with many dried ones procured in England.<sup>1</sup> He had much to see to in planting the newly-acquired treasures and in studying their habits. Space began to fail him, for all the wide extent of the Hartecamp garden. Plants when well cared-for take up so much

<sup>1</sup> Diary. The Cliffortian *Hortus Siccus* is now in the Banksian Herbarium at the British Museum: it was purchased by Sir Joseph Banks for 25*l*.

room, if their form is to remain perfect. Think of the difference between a forest-grown fir tree and a specimen grown on an open space in a park, where its branches feather down all round it to the ground. Like a cathedral, one should be able to view a fine tree all round. I seem to see Linnæus, with a specimen that wants replanting in his hand, going round the hot-houses and pits saying, 'Where shall I place my saint?' and trying to squeeze a space in a tub already tenanted by a *clerodendron* and a *lophospermum*, a *bignonia* or two twining about a bay tree, and several small long-named specimens of low growth round the edge, each sort of roots tapping a different stratum of nourishment, plentifully renewed by rich top-dressing. Such a tub reminds one of Mrs. Squeers counting the occupants of the beds at Dotheboys Hall and saying 'Brooks' is full.'<sup>1</sup>

Carl writes, 'The *musa* has this day (April 3) begun to flower.' It flowered last season.<sup>2</sup>

Linnæus was again in full tide of work.<sup>3</sup> The printing of his 'Genera Plantarum'<sup>4</sup> went on with all possible speed at Leyden, and on October 3, 1736, he was made a member of the Imperial Academy of Sciences at Vienna, under the name, according to the customs of that body, of Dioscorides II. He published the first

<sup>1</sup> This *beau-pot* fashion of planting has recently been revived with pleasing effect at Kew and elsewhere.

<sup>2</sup> Diary.

<sup>3</sup> Ibid.

<sup>4</sup> Before printing the first edition of the *Genera Plantarum* he had examined the character of 8,000 flowers.—*Encycl. Brit.* eighth edition.

edition of his 'Genera Plantarum' early in 1737, with a dedication to Dillenius, which drew from that Goth a letter, dated May 16, 1737, repudiating the compliment. Dillenius was irate at being left to toil at his laborious 'Pinax' all alone, and angry at finding his name used in apparent sanction of a system which he considered frivolous, superfluous, and even harmful. 'What is the object of this display?' he asks. 'The sexual differences can serve no distinction. It is enough that they have turned the head of one botanist, Vaillant,' &c. His rude reception of Linnæus at Oxford and his further letters show Dillenius to have been ill-mannered and disagreeable—in fact a German bear. Linnæus, accustomed to Swedish politeness, must have been astonished at this reception of a compliment; but he had no time to brood over the injury, for he was busily engaged in printing the octavo catalogue of his Dutch friend's greenhouse, the 'Viridarium Cliffortianum,' and preparing the magnificent 'Hortus Cliffortianus,' and among his many admirers he could afford to despise one uncourteous and selfish acquaintance.

'In 1737, Linnæus had completed the arrangement of Clifford's large collection of plants, and had augmented and put in order those in the garden. As Clifford had not only given him a considerable sum of money annually, but also maintained, and treated him as if he had been his own son, Linnæus undertook the extensive work the "Hortus Cliffortianus," which he both arranged and wrote, and he also corrected it for the

press, performing the whole (a task of years) within nine months.'<sup>1</sup> This time cannot include the production of the plates, drawn and engraved by J. Wandelaar, which are splendid. 'Pictures,' says Haller, concerning this work, 'please amateurs, and prevent a book from seeming dry and tedious.'

The 'Hortus Cliffortianus' was brought out in a style much superior in every respect to the productions of that period.<sup>2</sup> The illustrations are some of the most exquisite plates ever seen in any book. The Dutch poem, in praise of Clifford and Linnæus, on the title page, is also by Wandelaar. The engraver has taken immense pains with the texture of the 'Ethiopian'<sup>3</sup> plant<sup>4</sup> with a curious dry-looking bunch of flowers, that Linnæus names *Cliffortia*, of which two varieties are engraved. The plate of the feathery *Collinsonia canadensis* is a beautiful picture. Collinson received this compliment in a different spirit from Dillenius. 'Something, I think,' the Quaker writes, 'was due to me from the commonwealth of botany for the great number of plants and seeds I have annually procured from abroad, and you have been so good as to pay it, by giving me a species of eternity, botanically speaking—that is, a name as long as men and books endure.'

Linnæus threw himself into this work 'with all the fervour of gratitude, and that enthusiasm for glory, fame, and triumph which belongs especially to the

<sup>1</sup> Diary.

<sup>3</sup> *I.e.* African—Cape of Good Hope.

■ Sir W. Jardine.

■ Thirty-first plate.



young.' The 'Hortus Cliffortianus,' containing 501 folio pages and an index, is a work of prodigious labour and research. It includes a description of coffee and tea, comprising what was at that time the most complete history of the tea shrub, and chocolate, which Linnæus thinks the most salubrious of the three. As a rule the plants depicted in this work are still rare in our hothouses. The knowledge gained in cultivating these rarities was of immense value to Linnæus. It was a business in itself to learn the treatment of such plants, and a valuable addition to his studies on climate. Two hundred copies of the book were printed at Mr. Clifford's expense, and never published, but distributed among the banker's friends and a few learned societies. He gave ten copies to Linnæus. The 'Viridarium Cliffortianum' is a *résumé* of this work, arranged in the form of a manual for general use. It is a classified catalogue of the greenhouse, in 104 pages. From Professor Adrian van Royen Carl obtained the greatest rarities for Clifford's garden. In the intervals of this occupation, when he was fatigued by it, Linnæus used to amuse himself with his own 'Critica Botanica,' which he had printed at Leyden. He worked, overworked, and made money, though he is understood never to have received more than a ducat a sheet for any of his writings.<sup>1</sup> The interest of the garden and hot-house at Hartecamp was increasing daily. The diary of May 1 says, 'The *Musa* now flowering in our garden

<sup>1</sup> I think this was meant only of his works published later in Sweden.

here is twice as large as that of last year, and bears a fructification of double the size of the former.' Clifford did not now so eagerly share his enthusiasm about this plant; fossils were at present (May 1, 1737) Clifford's favourite study.

Linnæus had the pleasure of hearing his '*Principia*' and '*Fundamenta Botanica*' publicly lectured upon at the distinguished university of Leyden, in which he was himself a student, and the young men pointed him out to each other as the author of the system. There was no jealousy of originality in Holland, but ardent welcome was given to a man who could put life into so dry a subject as science.

If a man is known by his friends, Linnæus's friends were of very high calibre indeed: among them were Albinus and Gaubius, and other names of note. He was always able to receive in form those who visited him, and the Philosophical Club visited him at any time without appointment at Clifford's garden.<sup>1</sup>

The members<sup>2</sup> of this learned club were Dr. J. F. Gronovius; Dr. van Swieten, physician to the empress-queen; Dr. C. Linnæus; John Lawson, a learned Scotchman who had travelled very much, and been a particular friend of Linnæus, having many times asked him if he stood in need of money, given him 60, 80, or 100 guilders (Linnæus's diary naïvely records it), remarking that he still had enough for himself. This wonderful Scotchman 'loved both Linnæus and Gronovius very

<sup>1</sup> Pulteney.

<sup>2</sup> Diary.

much, and was a man of great judgment.' He had been an army doctor; his present line of pursuit was history and antiquities. He died at Osterhoot in 1747.

The other members<sup>1</sup> were 'Lieberkuhn,<sup>2</sup> a Prussian, having in his possession incomparable microscopes; John Kramer, a German, who had written a treatise on the docimastic art, who possessed a wonderful talent of remembering everything that was read to him, and who had been a student in all the faculties; and Johan Bartsch, a genteel, handsome, ingenious, and well-behaved young man. They assembled at one another's houses, and the person at whose house they met was required to demonstrate something in his own line of pursuit, as Gronovius in botany, Van Swieten in theory and practice of medicine, Linnæus in natural history, Lawson in history and antiquities, Lieberkuhn in microscopics, Kramer in chemistry, and Bartsch in physics.'

They sought positive truth first—'the grand means of expelling error'; their second object was social enjoyment.<sup>3</sup> 'Had natural history been more scientifically known, Milton would not have described the whale as a scaly animal, nor the snake as having a hairy mane.' Even in this year of universal knowledge, 1887, some careful housewives assert that the tortoise climbs the currant bushes for the fruit, and hedgehogs go further—they will climb an apple tree, shake it, then jump down

<sup>1</sup> Diary.

<sup>2</sup> A famous man, honoured by medical students at this day, 1887.

<sup>3</sup> Turton.

and roll themselves over and over among the fallen apples, carrying off a cargo on their spines for private eating.

The club let each other talk, giving each man the opportunity of mounting his hobby. This is the best way to get at his mind. 'When a man of genius is in full fire never contradict him, give him swing; let him pour forth, right or wrong; a listener is sure to get a greater quantity of good, however mixed, than if he thwarts or reasons.' Let Pegasus bolt: he will bring you up in a place you know nothing about. There may flow out of the new idea, as it bursts upwards, a lava stream of conceptions, ready to take the finest mould, invigorated by sympathy, and regulated by being perforce promptly put into intelligible words, which give them a body of more power than much print. Then came tranquil discussion, rising at times to brilliant interchange of thought, over the social pipe of course, and maybe the convivial glass, as they settled down to comfort—Linnæus learnt to smoke in Holland; the Swedes are no great smokers. It was the age of conversation, an art which we have lost. 'That is the happiest conversation,' says our Johnson, 'where there is no competition, no vanity, but a calm, quiet interchange of sentiments.' But it must have its elements of gaiety and humour, repartee and flashes of fun, or it is flat as weak tea and dismal as a dose of senna.

Linnæus sparkled among these luminaries; he was young enough to have those animal spirits about him which it is so vivifying to older men's wisdom to effer-



vesce with. Full of repartee and humour, he was eminently a social man, 'exchanging mind with you.' That a man could be seriously praised at that epoch for being 'an ingenious, knowing, and very convivial man,' shows how far those times were from our fashions. And then fancy being convivial in Latin! Elizabeth of Falun need not have been anxious; debarred from feminine society, her lover was only jocular in Latin. But amusement was not the club's primary object:

Animal spirits are not common sense;  
They're good enough as an assistance,  
But in themselves a poor existence.

Humorous subjects do not fully fill the mind. 'You laugh and there's an end; but with sublime subjects you muse and have high thoughts of God and resurrection, and retire to rest above the world. When you are melancholy, if you take up Voltaire he is sure to render you more so, strange as it may seem.'<sup>1</sup> It is a matter of course that bubbles should be empty, and emptiness cannot feed one. The philosophers of this club, and particularly the young ones among them, magnified their office, and rode on the youthful wings of science full tilt into other worlds.

Linnæus, the glib in Latin, his only outlet, is sure to have been among the chief talkers. 'He saved the time usually devoted by travellers to the acquisition of languages, on principle, conceiving that as his stay abroad was limited he should fall short of the *end* if he

<sup>1</sup> Haydon.

gave too much study to the *means*.<sup>1</sup> Dutch seemed not worth learning, and he was not long in France or England. One cannot do great works without leaving many little works undone. 'All our life must be a selection, and pursuits must be neglected because we have not time or mind to spare for them. So that I cannot but think that shooting and fishing, in our state of society, must always be indulged at the expense of something better.'<sup>2</sup> For all his effervescent imagination Linnæus was too strong to be versatile. He walked as a deaf man, and remained contentedly dumb among these people, though he had invented a language. Johnson himself had only coined four new words; Linnæus had a licensed mint of his own. Linnæus created words, a language. Yet the poet's calling is the greater: he creates lines, proverbs, images, thoughts, for that language to gather up and hold for ever; whole sentences, that, passing through the language, crystallise it into imagery. Such is Keats, such are greater and less than he. This function of a poet was in some measure exercised by Linnæus himself, as well as those of an inventor and reformer. The vague and barbarous technology of the time made of botanical science a maze of difficulties. 'It resembles a chaos,' said Linnæus, 'the mother of which is ignorance, the father custom, and the fosterer prejudice.'

'Botanists,' says Linnæus, in his third letter to Haller, June 8, 1737, 'have hitherto wholly neglected the language of their science. Since Tournefort more

<sup>1</sup> Diary.

<sup>2</sup> Dr. Arnold.

than a thousand generical names have been changed and introduced. What cause have I to change them? None but because they are not founded on proper grounds and definite laws. . . . Our successors in the republic of botany will ultimately cease to give implicit credit to the authority of the ancients. Why should we retain the ell-long names of *Monolasiocallenomenophyllorum*, *Hypophyllocarpodendrum*, &c., and other barbarian jargon?' 'Some things may be made darker by definition. I see a cow. I define her *Animal quadrupes ruminans cornutum*. But a goat ruminates, and a cow may have no horns. Cow is plainer.'<sup>1</sup> 'Linnæus has been reproached with having rendered too easy the nomenclature of botany, and occasioned thereby the appearance of a vast number of small works. This objection seems only to prove what progress botany has made under him.'<sup>2</sup> Formerly the names of plants sounded like a magical incantation; Linnæus condensed all this clearly into a trivial name. As, for instance—Stoeber gives it—the species of grass which used to be called *Gramen Xerampelinum Miliacea prætennis ramosaque sparsa panicula; sive Xerampelino congener arvense æstivum gramen minutissimo semine*. Linnæus called it simply *Poa bulbosa*.

Dillenius wrote angrily to Linnæus, 'By this means' [the newly constructed names] 'you daily increase the confusion which has proved so detrimental to botany, and which renders a "Pinax" so necessary.' I have some

<sup>1</sup> Dr. Johnson.

<sup>2</sup> Condorcet.



sympathy with poor laborious Dillenius, who saw his life's work thus upset.

Revolutions, even in science, always occasion convulsions. It is a stirring of the fire on a great scale. A reformer always has his adversaries. 'Never answer attacks,' said Boerhaave. 'I promised,' said Linnæus, 'to take his advice, and I have found my account in so doing.' 'Fear and anxiety more than esteem made Haller correspond with Linnæus in 1737. Linnæus wrote (April 5) a pacificatory letter to him from Hartecamp; a fine letter of noble and temperate argument. Haller wrote immediately to inform him of his friendly disposition in the warmest expressions.'<sup>1</sup>

Haller's note on the report of his intending to write against Linnæus's method is this: 'The report was false, nor did it ever enter my mind to disturb a young man of so much merit in the science of botany in the commencement of his fame and fortune.' Linnæus sent him a letter of thanks (May 1). 'You only and Dillenius I could never wish to be mine enemies, for you both have read the same book which I read—you have read Nature.'

Linnæus speaks of himself to Haller as 'a little man among the prophets. I pass my harmless time in preparing the "*Hortus Cliffortiensis*." I am struck with the supreme sagacity of Vaillant.'

This same year, however, scientific zeal brought on a short interruption of their friendly correspondence.

<sup>1</sup> Stoever.

They criticised each other. Haller was testy. Linnæus apologised. They were friends again. 'Their reciprocal esteem was frequently disturbed by jealousy and literary discordance.'<sup>1</sup> Like other botanists, Haller did not like being sent to school again. Linnæus maintained the necessity of an artificial system for practical use, and of the study of natural orders for a philosophical knowledge of plants. The great fault of the French school is the confounding these two distinct objects.<sup>2</sup>

The knowledge of natural history was not as yet sufficiently advanced to found a natural system on a solid base; mere analogy of appearance is not sufficient for this; how can it be, when not only orchids look like bees and butterflies, but a wet white feather in a shabby bonnet looks so like a vertebral fish-bone?

Linnæus's mind was an admirable instrument for piercing and uniting webs small and large. Maybe he would not thank his friend for using a tailor's simile, though he was himself full of fun and aptness of illustration, seeing such affinities in his subject as brought dull science within the shining circle of his wit. Accustomed to the rapid apprehension of his friend Artedi, he gave his illustrations with a hit-or-miss air, astounding the Dutchmen by 'the delicate light-horse canter of phrase' with which the new ideas floated sparkling from his mouth—they only accustomed to their own tobacco-clouds—now and then with half-suppressed impudence, seeing how far he could astonish their Dutch gravity.

<sup>1</sup> Stoever.

<sup>2</sup> Smith.

His mind was writhing in the tight crust of tradition, and bursting the bounds of imperfect knowledge. 'The mind is its own place'; but it has to free itself, to widen and burst all obstacles, making an area for itself to move in, expanding this until the universe only is its shell. The Dutch had thought themselves learned, but they were nothing in comparison with this young discoverer, who was able at any moment to hand out a sample of seemingly inexhaustible treasures. The Dutchmen welcomed him, on their own principle of amalgamating, or rather warehousing, all valuable foreign products.

Goldsmith aptly observes, 'Holland at first view appears to have some pretensions to polite learning. It may be regarded as the great emporium not less of literature than of every other commodity. A dearth of wit in France or England naturally produces a scarcity in Holland.'

Yet one faculty they had that Linnæus lacked—the discernment of beauty in art. They could stand entranced by the power of painting: could understand it, appreciate it, and disburse large sums for its possession, with a feeling altogether beyond their knowledge of 'the commercial value of beauty.' Much as Linnæus loved zoology, he loathed Cuyps and Potters; he, the lover of flowers, could only look upon Van Huysum with a critical eye.

Linnæus went to Leyden on club days—mostly by the barge, but in wet weather by the four-horsed coach,

which formed part of his splendour. It was difficult to draw up to the doors where his poorer friends lived; the splendour restricted his liberty, every short-cut was a *verboden toegang* to him. This is one of the inconveniences of wealth. On the other hand, he arrived dry—a consideration in Holland, where to pedestrians it is heavy rain, and not scorching sunshine, that makes the umbrella the staff of life. The storks enjoy it, and wild-duck and plover abound among the polders of the Hartlemer Mere; but the cows wear jackets, and the calves, sheep, and tethered goats look rheumatic. At Haarlem and Leyden, beyond anywhere, is the display of *grandes eaux* remarkable, the water spouting from everywhere and turning all the umbrellas to fountains. No wonder Dutch towns are cleanly, Mother Nature washes their streets so diligently.

Linnæus also attended all Boerhaave's lectures at Leyden and visited him whenever he chose in Herman Boerhaave's happy home, where the great physician enjoyed life with his wife and daughter, to whom he was much attached, his garden and his violin. Boerhaave, seeing the merit of Linnæus, let him travel over his mind. The club were Carl's companions, his equals; in Boerhaave he found 'a soul,' in Palma's phrase, 'above his his soul; power to uplift power,'<sup>1</sup> as the moon controls the sea-depths.

Linnæus's severe intellectual strain had prepared him for a reaction on the emotional side, and the

<sup>1</sup> *Sordello*.



grand passion, 'by distance made enchanting,' came in to fill up an aching void in his nature. He had overworked himself, and could no longer judge justly of the work he had achieved. As Browning elsewhere<sup>1</sup> says,

It must fall out  
That one whose labour perfects any work  
Shall rise from it with eye so worn that he  
Of all men least can measure the extent  
Of what he has accomplished.

He still 'had on the anvil various books.' Among his works written at this time was his '*Flora Lapponica*,' of which Sir J. E. Smith remarks, 'This work, one of the happiest literary compositions of its author, is strikingly characteristic of the state of his mind at the time it was written. It is redundant in observation and reflection on every subject which could be interwoven with its professed object, conveyed in the most engaging style; a style independent of studied phraseology, flowing directly from the heart, and deriving its principal charm from the delight the author takes in what he has to communicate. The enthusiasm with which his imagination retraces every idea of his Lapland expedition turns the wild scenes of that country, even in the mind of his reader, into a paradise inhabited by all that is innocent and good. His effusions resemble the longings of an exiled Swiss, and are, in fact, incipient symptoms of that oppression of the heart which after a while rendered his abode in Holland, with all its

<sup>1</sup> *Paracelsus*.

scientific charms, no longer tolerable to one born in the purer air of Sweden and nurtured among her Lapland Alps.' He now proposed to leave Clifford and return home. The banker wondered why Carl could think of quitting him and giving up his fame and prospects. Here was the secret: he was homesick for Sweden and the Lapland Alps.

'What a mysterious curse-blessing is this same Heim-weh, this intense love of one's own country, which makes it seem pleasanter to lie down there and die, than to live anywhere else on the earth! Carlyle says it distinguishes man from the ape: but the poor animals in the Zoo must have an inexpressible longing for their native wilds—a feeling of the bliss of liberty that comes well-nigh to bursting their heart out, though the liberty itself they cannot perhaps remember. If the cat and dog are capable of deep feelings of local and personal attachment, then surely more so are the tiger and the lion. When one sees the lion ranging to and fro, wearying his life out in his cage—ah, poor dumb animal, we may be sure he feels intensely, though he cannot express his feeling but by those deep sighs of his, that melancholy breathing.'

This local attachment is the root of all patriotism, valour, and civilisation. 'The Swedes and Swiss find the greatest relief from nostalgia (next to their return home) in strong exercise.'<sup>1</sup> Linnæus defied his pain by incessant work, arming himself with additional science,

<sup>1</sup> Clough.

fighting off memory, so that he might be able to return at a later period rich and great to claim his Elizabeth, having won her by sheer force of toil. 'Casting one single regard of a painful victorious knowledge,' he now felt the rebound of spirits. 'I meet with few minds to excite me, many to drain me off, and by the habits of discharging, and receiving nothing in return, I am run off to the very lees.'<sup>1</sup> So it was with Linnæus: he must go to nature again. He would not, however, leave the benefactor to whom he owed so much until he had accomplished all that was expected of him. He perfected the garden and completed the '*Hortus Cliffortianus*.' In consequence of all this labour he became, towards the autumn of this year, so much enervated that he could no longer bear the air of Holland, although he lived in the best circumstances that any mortal could wish for.<sup>2</sup> For Clifford redoubled his kindness and persuasions, 'and when he found Linnæus intended to leave him, he requested him to remain at Leyden at his (Clifford's) expense, to attend Boerhaave as long as he chose, and not to depart before the professorship of botany at Utrecht was vacated by the death of old Serrurier, as Linnæus might be quite sure of succeeding him. He also offered Linnæus a salary during this interval.'<sup>3</sup>

Even the proffered dead men's shoes were no temptation. Carl writes naively that, notwithstanding these offers, and the delight and reputation he enjoyed at a place where he was visited as an oracle by every

<sup>1</sup> Ed. Irving,

■ Diary.

<sup>3</sup> Ibid.

botanist, he longed to be at home, and tenderly took leave of the kind banker. This was in the autumn of 1737. The three years of absence required by his bride's father were expired; no advantage was like the joy of returning to her.

Boerhaave, kindly physician that he was, perceived the alteration in his favourite, and counselled change of scene. Thinking Carl's talent would be lost in Sweden, he tried 'to persuade him to go to the Cape of Good Hope, and thence to the American colonies, at the public expense, in order to procure all kinds of rare and curious plants for the gardens of Holland, assuring him he would take care not only that his travelling expenses should be defrayed, but also that on his return a grant should be procured for appointing him acting professor. Linnæus refused this offer, however, assigning as a reason that he could not bear hot climates, having been born and educated in a cold one; though there were other reasons for his refusing it, as he was already engaged at home.'<sup>1</sup>

Dillenius seems to have preserved a lingering hope that Linnæus might come back to England and complete the 'Pinax.' 'James Sherard,' he writes, September 8, 1737, 'has spoiled it' [the 'Pinax']. 'After William Sherard's death he took me off and set me to work in his gardens, to make himself known.' Dillenius undertook the new work, the 'Hortus Elthamensis,' at his own expense; he says, 'If the time spent in composing this

<sup>1</sup> Diary.

work had been employed on the "Pinax," I dare say the latter would have been finished.' All was otherwise arranged. Linnæus writes to Haller from Amsterdam, October 8, 1737, 'To-morrow I leave this place. I must be in Sweden before the end of two months, but Mr. Clifford has kept me till now. I wish I may be able to get away from Leyden, where my friends wish me to make some stay.' He hopes to wait on Haller at Göttingen. 'My publications,' he adds, 'are all of a small size, such as suit an exile or a traveller, who must carry all his property about him. Bartsch has lost his life at Surinam.'<sup>1</sup>

Boerhaave made another attempt to induce Linnæus to visit some exotic region, and, early in 1738, says the diary—though erroneously, according to the date of the above letter—offered him the appointment of physician in ordinary to the Dutch establishment at Surinam, which was vacant and had to be filled up by Boerhaave.<sup>2</sup> He wished Linnæus to go, representing to him that the person who had been there before earned within five years some tons of gold, for there was no other physician in the place, and that excellent plants might be met with in so fine a climate. Linnæus recommended young Dr. Bartsch of Königsberg, his most intimate friend, who did not survive the appointment more than six months. Bartsch fell a victim to the climate, and to

<sup>1</sup> The autobiographical diary, written from memory, is not always trustworthy as to dates. This is a case in point. A distinct fact like Bartsch's death at Surinam could not be prophesied in a letter.

<sup>2</sup> Diary



the neglect and ill-usage he received from the governor, as Linnæus has feelingly related in his '*Flora Suecica*,' under the genus *Bartsia*. This did not increase any attraction Linnæus may have felt for tropical travel, although Bernard de Jussieu wrote to Linnæus at Hartecamp, October 1737, a glowing account of his younger brother who had sailed for Peru in July last year on a botanical expedition, and the marvels he was finding. (He, too, soon came to an untimely end.)<sup>1</sup>

Bartsch gone, Linnæus now felt lonelier still. The scientific veterans, Boerhaave and others, had no sympathy with his longing to be at home. Why on earth, they thought, should a botanist desire to go to Sweden? Let him marry a woman of fortune, learn Dutch, and settle in Holland. Let the first love be only a wild and beautiful adventure. Yes, let it be that! whispered self-interest, and his elder comrades and patrons. But a rush of love of country and of the one woman thrilled through him. Never! he would be faithful!

'At Leyden he bid farewell to all his friends and acquaintances, meaning to return to Sweden by way of Paris.' Professor van Royen, astonished at his resolution to leave Leyden entirely, offered him every kind of advantage if he would remain with him for only half a year in order to assist him in arranging the university garden, and demonstrate to him his

<sup>1</sup> Linnæus heard that Joseph de Jussieu, returning from Peru on board a ship which attacked an English vessel, was killed by a cannon-shot; but Haller says he died in Peru.

'Fundamenta Botanica,' 'by which means Linnæus's principles would be publicly propagated at this illustrious university, and the names which he had used in the "Hortus Cliffortianus," and other works of his, would be adopted also in that renowned garden.'<sup>1</sup> Linnæus was vanquished. 'He determined to remain, which' [choice] 'grieved Clifford very much, especially as he had made him such advantageous proposals. He did all he could to excuse himself to Clifford, assuring him there was no other reason for his remaining there but that of doing honour to himself and to his worthy friend Mr. Clifford.'<sup>2</sup> Yet we cannot wonder that Clifford felt hurt.

In some respects Leyden is the most interesting place in Holland. For one thing, it has diversities of level. The Burgt, or round tower of Drusus, the citadel of the town, with its rampart enclosing trees and a well, is not only picturesque in itself, but commands delightful views all round. One can sit and sketch in peace in and about it, as it belongs to the garden of the picturesque old Hotel den Burgt, with its pink-brick walls stained green and weatherbeaten.

The *toegang* to the Burgt has a wrought-iron gateway with coloured shields and two archaic supporters of the shields, a ram and a lioncel, on quaint columns. The views of this round tower or bastion are charming from all points. The outer gate of the hotel, with its red lions standing guard at two towers, is also delightful, and

<sup>1</sup> Diary.<sup>2</sup> Ibid.

very funny is a small red lion (the arms of Leyden) in bas-relief, *rampant*, within a fence which looks like a punnet basket, ringing a blue bell for a big red lion (in the round) with a sword to come to his assistance. The motto is '*Hæc Libertatis Ergo.*' Beneath this device is the brick and stone archway of entrance; the red bricks are worn to the loveliest tones of purply-pink with green lichen upon them. All about and around are delightful 'bits'—turrets and quaint Dutch roofs set in foliage.

The inside of the hotel is pleasant with Dutch tiles and old carvings in bosses and pendants, showing that it was formerly a house of some consequence. The things most modern about the place are the portraits of mine host, before he lost his good looks, and his family. Life here is essentially Dutch. Breakfast is laid with very thin white porcelain. After the clumsy French crockery, it feels like playing at dolls to be toying with these tiny cups. The butter is squeezed into a pot; one helps oneself by scraping from the top. Rolls, rusks, raw hung-beef, cheese, and gingerbread are supplied at discretion: you can order what else you please. The numerous milk-jugs are stood each in a basin, the coffee-pot on a lamp. The napkins are of tissue-paper, as is usual in Holland.

A short street leads hence past St. Pancras Church to the bridge with covered colonnades, which is used as a corn exchange, and the Breedestraat with the town hall, half a street in length, built in the style of the sixteenth century, with long inscriptions written above the flights

of steps leading to the entrance door. One might well walk into the canals as poor Ardedi did; it was difficult to avoid such risk at night, in his time, when doubtless Dutch streets were insufficiently lighted. The Rhine flows through the city in branches, each like a canal, and a canal flows round the city in zigzags like a fortification, forming a moat of defence.

The university occupies a whole quarter of the town—the Quartier Latin of Leyden. ‘The Prince of Orange, with the view of rewarding the citizens of Leyden for the bravery they displayed at the time of the siege, gave them the choice of two privileges—either an exemption from certain taxes, or a university; they chose the latter, and the town became the Athens of the West.’

Beyond St. Pieter’s Kerk, with the two quaint towers at its western end, are laboratories and academic buildings of all sorts, chemical laboratory, and famous anatomical museum, &c., interspersed with slow gliding branches of the Rhine, and pretty gardens, into which one peeps through gratings. Here is a labyrinth of bridges, *toegangs*, and *verboden toegangs* (a *toegang* is not precisely translated by the word footpath, as one might suppose; it is a thoroughfare or entrance). But one need not lose oneself, for St. Pieter’s Kerk is only divided by a short street, and of course a bridge, from the famous Hall of Science, that Niebuhr thought the most venerable in the world; where also Linnæus’s system was first publicly adopted, which doubled the interest with which I looked at its arched and pillared hall.

The outside is of brick pointed with white stone; the ogival arches of the windows have the tracery of a late period. The notices to students are posted up in Latin and Dutch; on this day was one concerning a lecture on Herbert Spencer. From hence one goes on to the zoological laboratory and various gardens and university buildings, and round by sundry canals to the Botanical Garden.

Linnæus always lived in a garden: he could not help it—it gathered round him. If there were no actual garden, he soon made a paradise spring up about him: before all things he was a gardener. ‘Better a cowslip with root than a prize carnation without it’ was always his feeling, and now he had the arrangement of the Botanical Garden at Leyden upon his hands—which remains a beautiful garden still, and teeming with reminiscences of Linnæus.<sup>1</sup>

Here one first enters an umbrella-roofed fernery with tall tree ferns in the centre, ivy and *Tradescantia* hanging down the grottoed sides. Here are several hot and cool houses, including an orchid collection and a water-lily house. The great hawthorns on a mound, before the domed building of the university opposite, were seedlings in Linnæus’s time. It is pleasing to look across the trails of climbing plants festooned between these trees to where the Rhine winds in front, a curving avenue of horse-chestnuts.

A *Gymnodadus canadensis*, all ivy-grown and

<sup>1</sup> Not of course comparable with our collections.



propped up, is the very plant that was borne to the ground in the fall, some years ago, of the palm tree said to have been planted by Linnæus's own hands here—so Mr. H. Witte, the present professor of botany here, tells me. He does not believe Linnæus really planted the palm; but the fact of the tradition, he considers, makes the *gymnodadus* interesting, and connects it with Linnæus's personality; as a portrait, if even only supposed to be a likeness, represents the individual man to us.

I think there has been some confusion between this tree of Linnæus's and a palm tree—a caulescent variety of *Chamærops humilis*—planted by Clusius, professor of botany, who died, aged 84, in 1609. This tree was noted by Stoever as still, in 1788, existing in great perfection.

Mr. Witte showed me a medallion of Linné with the *Linnæa borealis* at the button-hole—the same that is engraved in Stoever's 'Life of Linnæus.' He also showed me a cast of the fine Upsala bust, and a small bust in silver, forming part of the cover of a handsome silver inkstand presented to Mr. Witte, whose official residence stands at the entrance to the garden. There is no specimen of the *Linnæa borealis* here; the head gardener, rummaging about in his brains for a long-forgotten German word, says it is *Kaput*, and Mr. Witte says the climate of Leyden did not suit it and it died.

'Linnæus together with Van Royen examined the

plants at Leyden and gave them new names, and they were all put in order; whereby Linnæus gained Van Royen's entire confidence.'<sup>1</sup> We may here mention a circumstance which reflects honour on Linnæus. Professor van Royen had made proposals of marriage to the only daughter and heiress of Boerhaave, had been rejected, and he therefore became hostile to the family.<sup>2</sup> The Botanic Garden, which he superintended, had been arranged and described according to Boerhaave's method; but Van Royen determined now to adopt that of Linnæus; not so much because he considered the latter to be superior, as to get rid of the associations connected with a man who had slighted him. He offered Linnæus a salary of 800 florins to assist in carrying out the scheme. 'The respect which Linnæus felt for his friend Boerhaave would not allow him to accept the offer as it was made to him; but he remained with Van Royen for a time, classified the plants after a system of his own, composed expressly for this garden, and made a catalogue of them, which was published in Van Royen's name.'<sup>3</sup> In many other ways he pushed on the science of natural history.

During this time Linnæus went every day to the house of his friend Gronovius and assisted him in his 'Flora Virginica,' published about the same time as Van Royen's 'Hortus Leydensis,' both of these botanists having adopted Linnæus's names and principles.<sup>4</sup> That

<sup>1</sup> Diary.

<sup>2</sup> Turton.

<sup>3</sup> Diary.

<sup>4</sup> Ibid.

the evenings might not pass uselessly, Linnæus worked at his 'Classes Plantarum,' which he published here, his 'Corollarium Generum,' and his 'Methodus Sexualis,' and also his late friend Pehr Artedi's 'Ichthyologia' in five parts. Linnæus writes to Haller, 'I am now employed in printing the posthumous works of my friend Peter Artedi, in which, if I mistake not, you will see more perfection than can be expected in botany for a hundred years to come.' Besides what concerned his work Linnæus was the recipient of much written abuse in the shape of letters, chiefly from German antagonists of his theories. He remembered Boerhaave's useful advice, and kept his temper. He writes to Haller, Leyden, June 23, 1738: 'Siegesbeck shall never provoke an angry word from me, though he has poured thousands on my devoted head.' Haller had invited him cordially to go to Göttingen, and Carl now promised when he left Leyden to go directly to Göttingen, giving up Paris. His incessant toil, in addition to his homesickness, was too much for his health; but he pressed on his work in feverish haste, that he might the sooner be in a position to claim his promised bride. Boerhaave again remonstrated with him on his bad management of his health, but he replied that it was imperative on him to make a fortune. Absence, which first quickens love into consciousness, strengthens it as a power of unseen bonds altogether supernatural. Carl longed to pour out the fulness of his heart, to use his own language instead of always speaking in learned tongues. He

felt a disgust with the ever-shifting crowd of learned cosmopolitans in Holland. He now loathed

To herd with people that one owns no care for,  
Friend it with strangers that one sees but once;  
To drain the heart with endless complaisance.<sup>1</sup>

Oh for home faces to smile on him again! He had to earn smiles from strangers now.

He was again delayed in his return by the dangerous illness of Boerhaave; he could not leave the patriarch of natural science on his death-bed; he must wait and close his eyes.

Boerhaave, whose commendation had cheered him in his discouragement, whose discernment had placed him on the pedestal he now occupied, who loved him like a son, and held him heir to all his science—‘Boerhaave had been attacked in the spring of 1738 with dropsy of the chest, and consequently with great difficulty of breathing. No one was admitted to see or speak to him. Linnæus was the only person in whose favour an exception was made, that he might see him and kiss the hand of his great instructor to bid him a sorrowful adieu.’<sup>2</sup> He kissed Boerhaave’s hand in token of respect, and Boerhaave raised Linnæus’s hand to his lips in return. ‘I have lived out my time,’ said the venerable invalid, ‘and my days are at an end. I have done everything that was in my power. May God protect thee! What the world required of me it has got, but from thee it expects much more. Farewell, my dear

<sup>1</sup> *Dipsychus*, A. H. Clough.

<sup>2</sup> Diary.

Linnæus!' Here were these intellectual kings, the dying monarch and his successor. Boerhaave's mantle fell upon Linnæus.

On his return to his lodgings Linnæus found as a last and parting present an elegant copy of Boerhaave's 'Chemistry.' Now Linnæus was indeed lonely in a foreign land, with Clifford estranged and his friend and father in science dying—apparently so; but Boerhaave recovered for a while: his death did not really happen till September 1738. His tomb is in St. Pieter's Kerk. His statue, not a fine one like that of Erasmus at Rotterdam, stands not far from the Leyden railway-station.

Now Linnæus himself fell ill. Mental anxiety concerning his lady-love, added to the languor produced by overtaxed powers, brought on an acute attack of illness, a violent ague which rendered him entirely helpless. People had suggested to the 'Fair Flower of Falun' that Linnæus was too long away—that he had forgotten her and meant to settle permanently in Holland. He now received intelligence from Sweden that one of his friends was trying all he could to insinuate himself into the favour of his future father-in-law, with a view to gaining the lady to whom Linnæus was engaged. He prepared to set off without delay, when he was attacked by a very bad ague, of which he was cured by Baron van Swieten. Later on, in relating the story of his love to his friendly correspondent Haller, he writes from Stockholm, 'My most intimate friend B—— regularly forwarded the letters of my mistress by the



post. She continued faithful. In the course of last year, 1738, which I passed at Dr. van Royen's, with the approbation of the young lady, though it was the fourth year of my absence, and her father had required but three, B—— thought he had himself made considerable progress in her favour. By my recommendation he had been made a professor, and he took upon him to persuade my betrothed that I should never return to my own country. He courted her assiduously, and was very near obtaining her had it not been for another friend, who laid open his treachery. He has since paid dearly for his conduct by innumerable misfortunes.'<sup>1</sup>

This fact of its being some one who filled a professor's chair by his recommendation points to the flattering Brouwallius as trying to supplant him; but excepting the initial B in the letter I cannot find any other indication that he was the traitor. Turton calls B (*rouwallius*?) 'this faithless wretch.' 'He insinuated these doubts to Dr. Moræus. Linnæus was overcome by the news of this ingratitude, and sank into a fever, of which he nearly died, and which hindered his departure.'<sup>2</sup> It was no longer intellectual nor physical fever which consumed him, but the mad burning jealousy of an exile who knows his place at home taken, his crown of joy seized, while he is yet in life. He felt 'that convulsion of the throat and sickness of the heart which accompany the sense of catastrophe.'

His only consolation now was the thought of his

<sup>1</sup> Diary.

<sup>2</sup> Turton.

finished books, and especially the completed work, his tribute to his friend Artedi. 'Preserved and sanctified by inward light,' this soothed his illness. Though Artedi and he should both be dead in this fatal Holland, their work would live; they were not the unknown student lads who had dreamed and starved together at Upsala. Furious with his faithless friend, with Dr. Moræus, and all besides but one, his heart clung closer to his Elizabeth. He knew she would be true; but she was waiting for him, surrounded by persons trying to bias her against him. She too was sad, and worn, and weary; and would be the more anxious on hearing of his illness. He longed to be with her to remove her from those unsympathising people and lighten her burden.

Some tenderest girl, now  
Overweighted, expectant of him, is it? Who shall, if only  
Duly her burden be lightened—not wholly removed from her,  
mind you—  
Lightened if but by the love, the devotion man only can offer.

His love had hitherto been that 'which influences, does not make, the destiny of a life,' or so it had seemed; but circumstances had given it vitality, warmth, growth. It had been like mummy wheat, or like a coal-seam, or like the Dalecarlian petroleum mountain.

Oh that he could fly to her! He must take pains with his recovery.

To move on angel's wings were sweet,  
But who would therefore scorn his feet?

Illness showed him who his real friends were, where

lay his real wealth. It showed how much Linnæus had endeared himself, that the amiable Clifford, 'though he had been much displeased, went to see Linnæus, and requested him to accompany him into the country, if only for one night; representing to Linnæus how dangerous it would be for him to pursue his journey, as he was still very weak. He had a relapse, attended with cholera, which threatened to kill him, but that Van Swieten did all in his power, so that Linnæus got better.'<sup>1</sup>

'Nature will be paid back in repose what she has paid in labour.' Napoleon's plan was 'to counteract excessive labour by excessive repose.' An illness compels us to this. Linnæus was up and about again now, gathering together pretty things—Japanese enamels, and curiosities—for Elizabeth, to soothe his own impatience while he was 'bid, laborious task, to rest.'

'Clifford offered him also his former situation, the use of his horses, and the salary of a ducat a day so long as he would stay at his house. Linnæus remained there for some weeks, and enjoyed everything that had been promised.'<sup>2</sup> How glad the gardener at Hartecamp must have been to see him again! As for Clifford, he petted Carl like a baby. In March Linnæus writes to Haller, after his illness, from Hartecamp, that he was going to return to Sweden by way of Paris after all.

Twice or more Linnæus had offended kind friends, Stobæus and Clifford, and they had renewed their kind-

<sup>1</sup> Diary.

<sup>2</sup> Ibid.

ness to him nevertheless. In some weeks he was able, though weak, to set out on his journey. Clifford conveyed him in his carriage as far as the Hague, crossing the Rhine, the narrow but still pleasant river that it is here, by way of Voorschoten. He tried to amuse and interest the convalescent by the sight of the country, the carriage driving on the smooth brick-paved road so close to the hedges and the drawbridges to the houses that they could read the quaint or pious inscriptions over the doors. One cannot fail to be pleased at the Dutch picture-like landscape all around—the sight of the cows in Cuyp-like groups at milking-time, the webs of linen outspread to bleach, and sprinkled with an oar; and the women in deep-brimmed straw hats over their burnished gold or silver helmet-like head-tires; the whole structure crowned with artificial flowers and adorned with white lace.

One can travel easily nowadays through much of this retired part of Holland, avoiding the train by taking the local steam-tram and keeping to the parish roads, which are paved with small hard bricks the whole way. These country trams do not seem a very paying concern, but they serve the villages conveniently. It is very pleasant thus cruising about among the villages and winding through the parish roads; one sees the life of the people—their farming, and their beds of lilies and various bulbs and tubers, hurdled in and roofed with matting, that is rolled back when the plants do not need the shelter.

The travellers rested at Leyden and the Hague, and then went on to Delft in the same easy manner, on the same sort of splendid brick-paved road, through an avenue of plane trees by the side of the canal, enlivened by mills and boats, and black-and-white cows browsing beneath the pollard willows; the roadside adorned by country houses, with large iron gates fencing their avenues—a sight which affected the still feeble Linnæus well-nigh to tears, as these things reminded him of Hartecamp and all the kindness lavished on him since he arrived in Holland a penniless and friendless foreigner. He grasped his benefactor's hand with effusion. The evening in the oozy country, with mist rising from all the irrigation channels, and above all, with the feeling that it was his farewell, was painfully depressing to his invalid spirits. The kind Clifford did not leave him till he had housed him safely in the comfortable inn, which still exists, behind the town-hall of Delft and ordered everything for the comfort of his further journey.



## CHAPTER XIV.

## HOMEWARD BOUND.

‘Fame, they tell you, is air; but without air there is no life for any; without fame there is none for the best.’—W. S. LANDOR.

NOTWITHSTANDING all Van Swieten’s skill and Clifford’s unwearied kindness, Linnæus never fully recovered his health until he left Holland and reached the more elevated country of Brabant, ‘when his whole frame was in one day quite renovated, as it were, and freed from something that was a burden to it.’<sup>1</sup> His route to Paris lay through ‘Antwerp, Trefontaine, Mechlin, Brussels, Mons, Valenciennes and Cambray, Peronne, Roye, and Pont-à-Pont(?);’ but he made no long stay at these places, being impatient to reach Paris.

‘As soon as he reached Brabant he made the reflection that he was come out of a fine garden into a poor pasture-ground; both the people and their habitations were poor. The city of Antwerp had antique and magnificent buildings, but the inhabitants in general were in a state of poverty.’<sup>2</sup> This shows the then superior comfort and prosperity of Holland. We also see how

<sup>1</sup> Diary.

<sup>2</sup> Ibid.

greatly the Southern Netherlands have prospered since they became independent Belgium.

The Protestant Swede, fresh from Holland and England, felt with Carlyle, 'The devotion of the kneeling worshippers in the cathedral struck me dumb. I cared nothing for Rubens and Vandyke canvasses while this living painted canvas hung here before me on the bosom of eternity.'<sup>1</sup> Carlyle says of this landscape, 'Sand-downs and stagnating marshes, producing nothing but heath, but sedges, docks, marsh-mallows, and miasmata—so it lay by nature; but the industry of man, the assiduous unwearied motion of how many spades, pickaxes, hammers, wheelbarrows, masons' trowels, and the thousandfold industrial tools have made it—this! a thing that will grow grass, pot-herbs, warehouses, Rubens' pictures, churches, and cathedrals.'

Being still feeble, Linnæus considered he might fairly escape the picture-galleries—these were not in his line; but he had an unrivalled eye for country, for unpainted landscape.

'At Brussels he saw fine fountains in the streets, and a valuable arsenal. The emperor's sister lived here, and the Romish religion was in the most prosperous state. He often went to a wall on the western side where he had a view of the whole of this fine city. On the eastern side it had suffered most' [by bombardments] 'from the French.'<sup>2</sup>

'At Mons there was a strict examination' [of the

<sup>1</sup> Tour in Netherlands.

<sup>2</sup> Diary.

luggage], ‘and no person was permitted to pass who had more than twenty livres with him; however, Linnæus passed, though he had two hundred ducats.’ He makes no comment on the fine Gothic cathedral, but he says, ‘This town, though not very large, has eleven apothecaries.’ I dare say there are more now, as Mons has 27,800 inhabitants. ‘In its neighbourhood were pits and quarries of stone, coal, and slate for roofs.’ The coal industry here has enormously developed: the yield of the mines of Hainault averages nine to ten million tons. The whole kingdom of Belgium produces not more than twelve to thirteen million tons in all.<sup>1</sup>

From here Linnæus was himself again and able to make observations, though he evidently writes nothing till he reaches Mons.

‘At Valenciennes’ [famous for its bleaching-grounds] ‘Linnæus’s trunk was sealed up, as he had a great number of new books, having carried with him a copy of every one he had published in Holland.’ He might well have been interested in that fine vegetable (flax) production the Valenciennes lace, as delicate as flowers; and the Brussels lace, copying with even greater fineness the flower forms of his *Hortus siccus*.

‘Thence he passed the plains of Flanders, resembling, he remarks, those of Skåne. The houses were for the most part built with a kind of *Marmor sectile*, or stone between sandstone and chalk.’ Is this the ordinary white building-stone of France?

<sup>1</sup> Baedeker.

At Cambray, every time the clock struck two wooden figures of men were seen striking the bell,' as at Lübeck. He seems always struck with the mechanical clocks. His is not the only great mind that has unbent to such toys. George Eliot speaks of watching the 'revolving of the days as one might have watched a wonderful clock, where the striking of the hours was made solemn with antique figures advancing and retreating in monitory procession.' It brought a sense of solemnity. How much Carl had done since he watched the toy figures on the clock in Lübeck church! But at what a cost it was achieved!

'The road hence was paved with a kind of argillaceous limestone.<sup>1</sup> Carl carried a very handsome letter of introduction, dated May 1738, from Adrian van Royen to' [Joseph ?] 'de Jussieu, the physician,<sup>2</sup> who made him acquainted with his brother, the famous Bernard de Jussieu, professor of botany at Paris. Carl at once went to seek the professor at the Jardins des Plantes. Here Bernard de Jussieu, brother of Joseph (?) and botanical demonstrator, was describing some exotics in Latin before a crowd of students, and among them the clever child Michael Adanson, then only eleven years old, who was even thus early admitted to the lectures

<sup>1</sup> *Marmor margaceum*.

<sup>2</sup> Stoever calls him Antoine, and seems to have confounded him with his still more celebrated nephew Antoine de Jussieu (Professor Reg. Parisiensis), the great botanist. Smith speaks of the physician uncle as Joseph; he was also a remarkable botanist. One brother Joseph was in Peru.

of Bernard de Jussieu and Réaumur, and had free access to their cabinets. One of the plants remained unexplained, and seemed to embarrass the demonstrator. Linnæus had looked on in silence, but now, remarking the professor's hesitation, he said in Latin, 'It has the appearance of an American plant.'<sup>1</sup> This was apparent to his natural instinct as a botanist, ascending to generalisation from well-studied particulars. 'The foundation of a natural system of classification must result from a close attention, not to one or two, but to *all* the parts of plants.' These are Linnæus's own words. The great naturalist seems to recognise a particular instinct—which he felt within himself—by which botanists are guided in their inquiries, and which enables them to distinguish the characters of plants—by this dominant impression. 'The habit of a plant,' he remarks, 'must be secretly consulted'—intuitively felt, is perhaps nearer his meaning. 'A practised botanist will distinguish at the first glance plants of different quarters of the globe, and yet will be at a loss to tell by what mark he detects them. There is, I know not why, a sinister, dry, obscure look in African plants,'<sup>2</sup>

<sup>1</sup> Sir J. Smith was surprised to find Vaillant's Herbarium rich in North American specimens collected by Sarrazin in the beginning of the eighteenth century, many of which were early in the nineteenth century supposed to be of recent discovery—as *Kalmia glauca* of Hort. Kew—and thought it wonderful they should have remained so long undescribed by French botanists.

<sup>2</sup> Hooker and Ball in their journey in Morocco allude to this in speaking of the *Cynara acaulis*, Linn. as a species characteristic of the hot and dry region of North Africa.

superb and elevated in the Asiatic, smooth and cheerful in the American, stunted and indurated in the Alpine.'

Jussieu was surprised; he turned round quickly, and said, 'You are Linnæus,' and gave him a cordial welcome. They became friends at once. Bernard saw the 'gallant consciousness of power, the subtle and humorous twinkle in the glittering eyes,' playful but never mocking. He took him to his brother, where Linnæus presented Van Royen's letter, and the Jussieus introduced him to the scientific circle at Paris. Linnæus at once entered the front of battle among those great strong men, the men of the eighteenth century.<sup>1</sup> The old professor (Joseph ?) de Jussieu, who was constantly occupied by his position as a physician, recommended him to his younger brother Bernard's care, to show him the collections, and to make botanising excursions, which were not allowed to be of any expense to Linnæus, but were made an opportunity of showing their guest the form of attention he would most value.

Linnæus stayed a month in Paris, during which time he almost lived with the Jussieus, visiting the gardens of Tournefort, Vaillant, and the royal gardens presided over by Bernard de Jussieu. He was introduced to the entomologist Réaumur, inventor of the new thermometer, who would have been especially in-

<sup>1</sup> Mill calls the eighteenth century a great age—an age of strong and brave men. 'The strength of the century lay neither in politics nor in art, it lay in breadth of understanding.'—FREDERIC HARRISON.



terested in the friend of Celsius; and to Des Sauvages, who laughingly called Linnæus the Charles XII. of Natural History. Réaumur seems to have felt a little national jealousy at the Swede finding his time too valuable to allow him to engage in studying the manners and language of the French. In his diary we again find Linnæus describing himself as 'of opinion that time is never bought so dear as when people go abroad only for the sake of languages.'

This is narrow; he might have considered that few persons go abroad exclusively for the sake of languages. The fact is, that carelessness in this respect was one of the sins he felt inclined to; and besides this, his ear for accent was deficient. He learnt Latin readily enough as soon as he found a purpose for doing so; but Réaumur continues, 'He never had a genius for languages, nor could he ever render himself familiar with the English, French, German, or even the Lapland tongues. He felt the same difficulty with respect to Dutch, although he had resided three years in Holland.' This, however, fortunately, did not prevent him from making himself sufficiently understood, especially in France.

The French are so brilliant and so quick to comprehend the universal language of gesture. Demosthenes was right in saying, 'Action, action, and again action.' His own and the French natural politeness and tact prevented Carl feeling the inconvenience suffered by Tom Hood, who counselled his friends:—

Never go to France unless you know the lingo;  
If you do, like me, you'll repent, by jingo!

His open disposition, and being used to finding perfect honesty and sincerity among those he consorted with, prevented that dread of being taken in which haunts most English travellers abroad. Sweetness of address is still usual in all classes in France. It was then universal, and in the society to which Carl's talents made him welcome, this grace of word and manner was refined and polished to the highest degree. Cardinal Fleury administered the government of Louis XV. at that time, and the court was still decent and decorous, if less stately than under Louis XIV. Madame de Pompadour's reign did not begin till after the cardinal's death in 1743, and this was 1738. The courtly grace was undiminished, though manners were more easy. France had not yet sunk to its later corruption; it had, besides, the increased lustre of learning. 'The encyclopædists professed to know everything, to explain everything, and to teach everything,' and they indeed cleared the head of Europe of a great deal of ignorance.<sup>1</sup> It was the age of dictionaries and encyclopædias. Jussieu himself had a scheme for an encyclopædia. Catalogues being in fashion, the French admired Linnaeus as a compiler of catalogues. They admired his

<sup>1</sup> 'There is this stamp upon every stroke of eighteenth-century work: the habit of regarding things as wholes, bearing on life as a whole. Their thirst for knowledge is a practical, organic, working thing; their minds grasp a subject all round, to turn it to a useful end. The encyclopædic spirit animates all; with a genius for clearness, comprehension, and arrangement. It was for the most part somewhat premature, often impatient, at times shallow.'—FREDERIC HARRISON.

systematic comprehensiveness; but they admired their own still more. The royal garden at Trianon was, out of compliment, arranged in conformity with his system; but the French generally, and naturally, preferred the systems of Tournefort and Vaillant. Linnæus was not jealous of this; these men were also the guides of his mind. Personally the French liked him much: they liked his cordial, frank, expansive character; his charm of manner modified the dryness of his books.<sup>1</sup> The French have always found the books which come from the North abound with too much learning. French readers require clear expression joined to poetry of motive: the converse of the Gothic intellectual need, which is a solid motive half hidden in a mysteriously poetical expression. The French mind glances into a new world of ideas like lightning.

Books and museums, alternating with travel, had formed the young Swede's mind, and he was able intensely to enjoy perfecting and polishing it in conversation with these charming yet superior people, lighter of spirit than the solid Dutchmen he had recently associated with; though he missed the chief charm of French society—that sparkling atmosphere of wit which surrounds the ideas they diffuse.

Here he acquired, or perfected, the gift of precision and easy brevity, which is generally only attained 'by

<sup>1</sup> 'One must civilise; it is really quite essential,' found out Carlyle, when men would only turn their worst, least profitable side to him because of his rude, overbearing manners.

habitually conversing in the higher ranks of society, and which is the diametrical opposite of that protracted style of disquisition "which squires call potter and which men call prose."<sup>1</sup>

Guizot places France at the head of European civilisation, because it is superior to Germany in social civilisation, and to England in producing more enlarged and advanced individual minds. Dr. Arnold considers this to a certain degree well founded. Foreigners say our insular position cramps and narrows our minds; 'and this is not nonsense either,' says Arnold, who, however, justly places a Christian, manly, and enlightened English gentleman as a finer specimen of human nature than any other country can furnish, or even conceive. Gibbon says: 'We may say what we please of the frivolity of the French; but I do assure you that, in a fortnight passed at Paris, I have heard more conversation worth remembering, and seen more men of letters among the people of fashion, than I had done in two or three winters in London.' It so much depends upon what one considers to be frivolity. Voltaire classed the collection of butterflies among the other '*bizarreries de l'esprit humain*.' We are not used to classify naturalists among the frivolous people. We place Voltaire himself at the head of the frivolous people, who trifle with all truths until they consider truth itself to be a trifle. 'The philosophy of Voltaire and his tribe exhilarates and fills us with glorifying for a season—the comfort of

<sup>1</sup> Scott.

the Indian who warmed himself at the flames of his bed.' The craze of that age, especially in France, was the manifestation of all material palpable truths—just the things that their bodily senses could appreciate; to this they sacrificed all the other truths, which are to these as is the sound of music to the written notes. All the rest they laughed to see Voltaire destroy, and dance upon the pyre (the dunghill Carlyle calls it) like a mocking imp. France has been the poorer ever since. Savonarola's burning of the vanities was a different form of sacrifice. A 'cold, sharp, hard, unmalleable logic-chopper,' like Voltaire as a destroyer of idols, is only 'good to behold at rare intervals.'

Tired of the ethical and didactic writers, they had all become philosophers or philosophasters in France at that time. Plato defines the philosopher as the man who seeks after the objects of knowledge while others seek after those of opinion. Some one smaller says, 'Man is a genus whereof the philosopher is only a species.' Linnæus was welcome to all—to the Duc de Noailles, the nobleman of the eighteenth century, one of the 'Corinthian pillars of the polished society,' with his refined and finished manner, so masterly in its perfect practice that it was like an early impression thrown off a precious print, whose plate has taken years to work, yet has a grace beyond the reach of art; as well as to the philosopher Rousseau, who was enthusiastically fond of the study of Nature, and of Linnæus as the best interpreter of her works; and equally so to the 'Colossus of gossamer,'

society at large. Rousseau, writing (in later life) to Linnæus, styles himself 'a very ignorant but very zealous disciple of your disciples. Alone with Nature and you, I pass delicious hours in country rambles, and I draw more profit from your "*Philosophia Botanica*" than from all the books on morals. I amuse my second childhood by making a small collection of fruits and seeds. If among your treasures in this line you can find some cast-off gleanings (*rebuts*) with which you might make some one happy, deign to think of me. Farewell, sir, continue to open and interpret to man the book of nature. For me, I am content to decipher some words after you in the *fewillet* of the vegetable kingdom.' Such flattery would have intoxicated and capsized Linnæus had he not been well ballasted.

Paris said (behind his back), 'C'est un jeune enthousiaste qui brouille tout, qui n'a d'autre mérite et de gloire que d'avoir mis l'anarchie dans la botanique.'

'Don't laugh, good people,' said Guettard, 'don't laugh at Linnæus; the time will come when he will laugh at you all.'

Rousseau was himself one of those who tried best to compose a botanical system; perhaps he was too much of a poet to complete it. The natural system baffled him; he had not sufficient data to go upon. Yet it dawned on him like sunrise, lighting up the things he had been groping amongst (ideas of the equality and brotherhood of men) to see the all-fatherhood of God manifest in all these vegetable families of the earth and their likenesses.



This young Swede, so unlike himself, so full of 'enthusiasm without passion, a still intoxication of the soul,' might perchance interpret the meanings for him.

Ray laid the foundation-stone of the natural history building. Nothing is entirely new : but Linnæus carried into execution what had been only an idea in previous minds. He very early attempted a natural method, and studied the English and French systems ; but it is evident he thought too many links wanting in the chain to render it the readiest guide to botanical knowledge. Linnæus's own aim in science, the devising of a complete natural system of botany, was also the object of a succession of extraordinary men ; besides Tournefort's system and Vaillant's there were those of the Jussieus, De Candolle, and many others. Adanson alone proposed sixty-five systems, none of which have been received. Linnæus always expected a perfect natural system to be made, and all his botanical studies tended to that end ; but he admitted ' he had been unable to complete this, the final aim of botany.' ' The key to a complete natural method,' Linnæus observes in his diary, ' is not, perhaps, more easy to discover than the quadrature of the circle.' Even among the students of the peaceful science there is dissension (though less than among those of the most peaceful, theology). The French were themselves judged and read off by this young foreigner, who was valiant for the truth and took up the cudgels warmly in defence of the dead. Linnæus writes (later) to Haller : ' Jussieu is my friend, and so

is Dillenius. I had never any acquaintance with Vaillant. He was a man full of himself, ambitious of raising his own fame on the overthrow of his teacher, the honourable and excellent Tournefort. Vaillant was merely demonstrator in the Paris garden, and rude in literature. He set himself up against Jussieu, and once laughed Dillenius to scorn. . . . All this is nothing to me. I wish to be a just and reasonable man as well as a botanist. I confess I never yet read any writer who was more accurate than Vaillant, who made more discoveries in botany, who laboured harder, or reaped a more sparing reward. Is a man to be handed down to posterity either as a scoundrel, a madman, or the most stupid of all mortals, merely because he has pursued, honoured, and laboured to improve botany? Jussieu, as I am informed, has solemnly sworn hostility to the memory of Vaillant; nor is Dillenius content with the numerous cavils with which he has insulted his manes in the "*Hortus Elthamensis*." Admit that Vaillant has his faults in synonymy, or perhaps in other respects. Who has ever been free from botanical errors? He is a wise man who can distinguish good from evil; and that general may be esteemed happy who conquers and disperses his enemies with the loss of half his own forces. . . . But an honest man ought to do justice to everyone's deserts. If you give due praise to Vaillant, posterity will be just to your memory.'

Among the delightful society that Linnæus found at Paris, who welcomed with open arms the pleasant

and lively young Swede, whose charm lay in being so companionable, were La Serre; Obriet, draughtsman and fellow-traveller of Tournefort; the widow of Vaillant, whose memory held the deepest interest for Linnæus; and Mdle. Basseport, botanic paintress in the royal garden. These ladies added a grace to the charm of the learned society. The men worked and felt like brothers, or at least with a perfect feeling of mental relationship and *esprit de corps*. Though they might not all agree with Linnæus, they felt nature with him, and found him a sympathetic companion in the sweet byways of life—the recreative work. Politeness always adds a charm to intercourse, and when accompanied with grace and beaming smile from young or elegant women it is enchanting. On June 14 Linnæus requested Du Fay, at that time chairman of the Academy of Sciences, to obtain permission for him to attend the lectures. This gave an opportunity for a high compliment, which the lively Frenchman was swift to take advantage of. Linnæus received permission to attend one of the sittings as a visitor; he was desired to wait a little while in the anteroom, and it was at length announced that the Academy had elected him as a corresponding member. This was exquisitely timed. That captivating French politeness, how it gilds life! It is indeed a decoration to him that gives and him that takes. What a pity that for a while there came a change in that polished country—so that it could be said, and not altogether untruly, ‘As soon as the sword ceased to be worn in

France the politest people in Europe had suddenly become the rudest.' Yet it had little to do with the sword; the truth is that chivalry and its teaching had been overthrown, and religion replaced by selfishness in all its forms.

The friendship of the Jussieus was more substantial. Bernard made excursions with Linnæus to Versailles, Fontainebleau, and Burgundy, and took all the expense of them upon himself. They were accompanied by La Serre, a fellow botanist. Linnæus was all eagerness. He remembers the trip to Fontainebleau with pleasure years afterwards.

The forest of Fontainebleau is ever charming, and to a Swede it always holds the memory of Queen Christina, beloved of Sweden, in spite of all her questionable traits. Christina was one of Linnæus's mental affinities, intimately connected with him through Rudbeck. The aspect of Fontainebleau at that day is given by Dr. Johnson, a less cheerful traveller than Linnæus: 'A large mean town crowded with people. The forest thick with woods, very extensive. The appearance of the country pleasant. No hills, few streams, only one hedge. Pavement still and rows of trees. The king's dogs almost all English, but degenerate.' Yet Johnson saw the forest in October—an aspect of it which makes most people rave.

Besides seeing almost all Vaillant's *Orchideæ* in flower at Fontainebleau, in Burgundy Linnæus first beheld 'vineyards and maize, things pleasant for sore

eyes'; an aspect of country to which he never knew a parallel. He saw the utmost possible productiveness of nature, unsurpassed even in the tropics.

Dr. Johnson<sup>1</sup> mentions a few of the objects which would have likewise interested Linnæus; among them 'a house furnished from Japan and fitted up in Europe.' Linnæus had acquired a taste for Japanese curiosities in Holland, where the old Japanese collections are still unrivalled. 'Also seeds and woods in the king's cabinet, very neat, not perhaps perfect. Gold ore and candles of the candie-tree.' Both these great men visited the menagerie at Versailles, and noticed the cygnets, halcyons or gulls, pelicans, and the small black stag of China, and some larger animals—lions, elephants, &c. Johnson observes, 'The great in France live very magnificently, but the rest very miserably. There is no happy middle state as in England' (and in Sweden). What a change in France since then!

M. du Fay proposed to Linnæus to remain in France, with the offer of being made an ordinary member of the Royal Academy of Sciences, and receiving a salary. He declined, as he was anxious to return to Sweden without further delay. This proves the personal admiration of the French for Linnæus, so akin to themselves in clear mind and crystal-cut expression, and so unlike the generality of their visitors of Gothic race. But his system was never frankly received among them. Sir J. Smith, travelling in 1790, says, 'Anthony de Jussieu

<sup>1</sup> *Travels in France.*

takes the lead among anti-Linnæans. He inherits his taste' [for botany] 'from his uncles Bernard and Joseph de Jussieu.' Smith likewise mentions how Linnæus's books 'had the honour of being prohibited in France, for that people, although then much enlightened, were not as yet enlightened by authority.' Yet they remembered him long after he was gone, and several of them wrote frequently to him. Maréchal de Noailles, his old friend and correspondent, decorated his garden with a monument to Linnæus, and celebrated a jubilee in his honour.<sup>1</sup>

Pleasure was much, friendship was more, but the longing for love, that had been hushed to sleep again, now woke and cried hungry for food. On his return to Paris Carl packed his treasures—his natural history specimens, and the Japanese and other foreign wares he had collected as presents to his Elizabeth, with coloured things from the East, and tasty trifles from Paris, to adorn their future life. He sent his reputation on before him by letter and testimonial, bade adieu to the friends who would always form a brilliant circlet in the realm of his recollection, and sailed down the rich and beautiful Seine to Rouen. This was in the summer of 1738, when the valley of the Seine was still a diorama of palaces, a street of châteaux and parks, the three towns of Havre, Rouen, and Paris set like jewels on the river, or like the three bright stars of Orion's Belt. Rouen, the sumptuous and stately, was

<sup>1</sup> Smith.



not then crested by that skeleton, that wretched anatomy of a spire, nor fringed by tall black chimneys.

At Rouen Linnæus embarked in a vessel bound for Helsingborg. Wind and tide bore him swiftly past the heights of Canteleu, by the houses hewn in the white cliffs at Duclair; and the towers of Jumièges, tinged with the story of that pardoned Magdalen, the tender Agnes Sorel. Carl gathered myosotis at her tomb. He sailed by leafy curving Caudebec, beloved of painters; and Lillebonne, enjoyed of antiquaries, with its Conqueror's castle and Roman theatre; and Tankarville, which Turner has idealised from beauty to another form of beauty, where the buildings are all in Roman style, with brick string-courses in the flint walls, suggesting the stratified greyish-white cliffs of the adjacent coast with courses of flints—all the buildings, that is, but the thick bulging church spires, which are like stout cotton umbrellas. The river opens out near hilly Honfleur and magnificent Havre; yet not so wide but that for long Carl could see the pleasant woods and distinguish particular trees, and hear the good-byes of the French birds, singing their good wishes to his love, as his vessel threaded its course among the fishing-boats scudding in the sunlight between the sandbanks.

He landed with the pilot at Honfleur, marketing some radishes, '*petits pains*,' and other provisions for his voyage; and collecting an innocent little contraband of peace—some honey-suckle, an ivy wreath, a few wild strawberries.

The opposite banks of Seine are clear : Carl sees their white cliffs and variegated *coteaux*, as in fine weather he sails away, sitting on deck watching the last of France ; tracing out first the leafy coast-line to the west, and then, on the Havre side opposite, taking the dip of strata on the cliffs by Fécamp, and finding it ruled as level as possible, and of the hue of mouldy cheese—near Havre the cliffs resemble fine ripe Stilton, further up they are like yellow Cheshire cheese, and at Dieppe like Castile soap. Some of the French passengers are holding lemons as amulets, or chewing them as a panacea against sea-sickness.

The scene is changed : waves and occasionally a peep of low coast-line on either hand form the view for several days. The wind is fair, the moonlight nights are glorious, and the Swede is going home. Transparent clouds unveil the moonlight glittering on the sails of distant vessels ; ‘the sky is clear and beautifully blue ; while now and then a light fleecy vapour drifts slowly over the glistening stars.’ All besides the whistle of the watch is hushed, so that he can hear the rippling and bubbling of the water as the prow cuts through it, dashing the silvery spray on either side while swiftly following the wild northward flight of the sea-fowl. What a scene ! the deep-sea-fishing of such interest too ; and what expressions of face and word in the sailors ! What a different life ! What a contrast to the polished Frenchmen he had lately left, all ruffled dandy elegance or scholarly neglect ! What fiery flashing vigour of

manliness in these bare feet and brawny arms ! What a contrast between the weatherbeaten sailor who boasted he drank twenty-six horns from sunrise to sunset, and the landsmen he had lately consorted with, feeble creatures, tired—weak, hesitating, flabby, nervous, gouty—but yet superior men, albeit with the best part of manhood about them borne down by the masses of their own learning ! Linnæus rejoiced in the crisp health-giving breeze, in which he seemed at home again after the flat stagnant air of Holland. They sailed with fair wind and weather to the Kattegat,<sup>1</sup> where the breeze drove them within sight of the quivering coast-line of Sweden and its low rocky girdle on the rim of the sapphire sea ; when suddenly the wind dropped and they rolled about helplessly in the blue trough of the waves, until it presently shifted to the opposite quarter and carried them back upon the Jutland shore. The cup of arrival was dashed from his lip !

Carl's diary shortens this part of his tale to a single line : after a passage of five days from Rouen to Helsingborg, the wind shifting at the Kattegat and altering the course of his journey, he says ' he landed at Helsingborg ; thence to Stenbrohult to see his aged father.'

He leaves us to find out how he did it—how he got to Helsingborg from the Kattegat ; and if Stoevers is right in saying he went through Jutland, I can trace for you his route. This is Denmark. What a different landscape to the rock-bound coast of Sweden oppo-

<sup>1</sup> Called after the old word *Kati*, a boat.

site! Here all is one low line of bright colour, green fields sloping gently down to the sea; or else low yellow sandy shore, beyond which stretches the little peninsula of Skager,<sup>1</sup> that looks like an island, bright with a church, a lighthouse, and a village, to the left of which, beyond a strip of beryl-coloured sea, is the sparkling red-roofed town of Frederikshaven. An insignificant place, however, and not over-wholesome, as one finds on walking about in the hot sun. When I was here, soon after midsummer, after the bleakness of Norway and the barren Swedish coast, the place seemed a marvel of sunshine and fertility, with its apricots all set for fruit, laburnum, guelder-roses, white and pink may, wistaria, gooseberries almost large enough for a pudding, and asparagus, probably home-grown, cut for table. It takes distance to regulate this idea and set the scene in its due perspective. These objects are no marvel at the end of June; indeed it is late in the season for such things. I had come from a worse climate, that is all. After enjoying the fertility of France, Linnæus may have shivered at the spectacle. He hastened down through Jutland by the little whitewashed thatched cottages that bestrew the hillocky rather than hilly ground. The beech trees are but small here. Near the seashore it is all reclaimed sandhills, with peat at whiles; inland, it is a level and not over-rich country, though growing plenty of corn, blue cornflowers, and pink campion, and stocked with poultry, cattle spotted

<sup>1</sup> The *Skager rack* = the race of Skager.

black and white, and Danish spotted dogs. The cows stand knee-deep in grass, and the barley is cut. Lambs and goats are capering about. Two sheep tethered together are partners in the mazy dance. Hay-making is going on, and there are plenty of hands to get in the crop. The land is fully peopled; for miles and miles it is all one large scattered village. There is little woodland in these parts; the peat serves the inhabitants for fuel. They ought to cut the peat in trenches and let the ditches as they are cut drain the land; but they dig it into ponds and pits in a futile and irregular way. A sea-fiord stretches up beyond Aalborg. There is now a railway-bridge and a bridge of boats across this fiord, guarded by the tower of Boyun.

Beyond this the country is more wooded—chiefly with spruce fir, and ill-grown and south-west-wind-beaten beech, and scrubby Scotch fir. It is less thickly peopled here at Arden; or, perhaps, as the farms are larger, the houses look more dispersed. There is still plenty of cattle, and food for the same. This description goes on throughout green Denmark *da capo* and *da capo*.

It is getting dark at 9.50 (I felt aggrieved at this in coming down from Norway; on reading my notes over at Michaelmas in England, I do not think that day was so very short after all). A river beyond Langaa, and mist lying heavy on the fields; moonlight on another fiord; and here we are at Aarhus, where a thunderstorm in the night sounds very grand—like a

tremendous organ pealing through the vast dark halls of silence.

The Danish girls are pretty: not beautiful in the loftier type of the Swedes, but refreshing and sweet to look on after the German unmitigated plainness and the Dutch heaviness. In England were the most and greatest beauties, remembered Linnæus, and then he thought of the blithe and tripping grace of the French women; but his own Elizabeth to him was loveliest of all.

From Aarhus it is easy to reach Helsingborg and tread on glad Swedish land again. June snowed the white apple-petals on Linnæus as he went. It was his own land of snow; but this June storm was of white blossoms—an avalanche of white petals; no bed of roses softer, sweeter.

It was lovely to walk through the forests of his own land, and after the stone spires of the Low Countries to look upwards to the world of fretted fir spires above and tread his own soft carpet of flowers.

O happy living things! no tongue  
Their beauty might declare:  
A spring of love gushed from my heart  
And I blessed them unaware.

Nature looked purer, lovelier than ever, and bountiful in blisses; but 'ah, the slim castle! dwindled of late years.' The towns seemed mere villages, the villages groups of huts. It was not until he entered inside those which opened hospitable doors to him that he recognised the superior comfort and wholesomeness of



household life in Sweden as beyond anything he had seen abroad below the sumptuous classes. He stopped at Stenbrohult to ask his father's blessing on his marriage. He had, besides, so much to tell his father, who breathed more freely in his son's wide knowledge. It was so pleasant to be called Carl again—he had not been called Carl since Artedi died—and to see again faces which knew and smiled upon him. His brother Samuel was now twenty, and just preparing for Lund University; Emerentia, the youngest of Carl's three sisters, a mere child when he left home, was now about eighteen, and engaged to be married to Branting of the civil service. The whole family gathered round to see the young doctor, the man of European fame in science. The neighbours shook his hand and wished him well: he was a pride to them likewise. But he must not stay: deeper interests and a frightful uncertainty lay in Dalecarlia. Should 'he returning see himself too late'? His country welcomed him, his neighbours hailed him gladly; but would his love? Suspense was fearfully agitating. He sped northwards. All was safe. She awaited him at Falun; she who heard him first

Woo her the snow-month through, but 'ere she durst  
 Answer 'twas April. Linden-flower time long  
 Her eyes were on the ground; 'tis July strong  
 Now; and because white dust-clouds overwhelm  
 The woodside, here or by the village elm,  
 And whisper (the damp little hand in yours)  
 Of love, heart's love, your heart's love that endures  
 Till death.<sup>1</sup>

---

<sup>1</sup> *Sordello*.

He flew to meet his Elizabeth, who had always been faithful to him. 'Having halted for some days at that place' [Stenbrohult] 'Linnæus set out for Falun, where he found that his confidential friend Brouwallius' [was he the traitor?] 'was already made professor of Natural Philosophy at Åbo' [and therefore away in Finland] 'and that the object of his affections was longing for his return.'<sup>1</sup> Another philosopher writes on like occasion: 'Her bonny little blush and radiancy of look when I let down the window and suddenly disclosed myself, are still present to me.' Define a blush—a thing of beauty and a joy for ever. A transient thing to treasure up for ever—his own, an everlasting flower. Her eyes were 'bright as if with many tears behind them.'

His presence at once blotted out the chances of the other, the traitor friend, for she was wedding the noblest; but Carl, who had intended playfully and forgivingly to reproach her for having made him suffer so much, now found the tables turned upon himself. Why had he stayed away so long? And he had to clear himself as best he might for having let science detain him from the charms of love. In vain he showed his doctor's hat.

Allah is great, no doubt; and Juxtaposition his prophet,  
Ah, but the women, alas! they don't look at it in that way.

Elizabeth scolded him in that tenderly playful way that is so charming from the young girl whom one loves, and Linnæus was more in love than ever, with the woman

<sup>1</sup> Diary.

he could talk to in plain Swedish ; as he looked at the soft blue eyes ‘and found them tender too, and made him feel that he could feel again’—eyes shining withal with soft mockery, as if she said, ‘Oh, he’s nobody.’ Nobody, verily, when he went ; somebody when he came back.

After the Dutch frows and French demoiselles he found his Swedish love perfectly dazzling. The Swedish complexion is never burned by the sun. Elizabeth was not, if we may judge from her portrait, taken in mature life, extremely beautiful, though she was the belle of Falun ; but ‘what is there that love will not transfigure into beauty ? She was called beautiful, and beautiful she was—if a face be beautiful which to look at is to admire.’<sup>1</sup> And now she was so happy, so secure, that she could lightly rally her lover, after Portia’s manner, that he ‘bought his doublet in Germany, his round hose in Holland, his bonnet in Harderwyk, and his behaviour——’

‘From home and polished it in France.’ He finished the sentence with a kiss.

‘And your manners of some Frenchman who had worn ’em out and cast ’em off,’ she rejoined. The lovers’ quarrel would be made up in a scene touching beyond description ; and little attentions would be paid, corresponding to the modern ‘turning the leaves on the dreary piano.’ But what is there that does not gain a charm from love ? And then would follow the ever-young love-scene,

<sup>1</sup> Froude.

Exchanging quick low laughs ; now would rush  
Word upon word to meet a sudden flush,  
A word left off ; a shifting lip's surmise—  
But for the most part their two histories  
Ran best thro' the locked fingers and linked arms.

It was heavenly to our over-worked Linnæus to bask in the sky of Elizabeth's eyes—to enjoy those peaceful Sunday mornings walking by her side, rejoicing in the unwonted stir and glow about his youthful veins ; and in the deep, deep rest of brain. Elizabeth was not a learned woman ; she was busy about household works, which to watch was a pleasure, a change, to him who was weary and sick of books. Such domestic skill, besides, seemed to promise the safest ballast to the boat in which they were to place the cargo of life's happiness. (A metaphor, I flatter myself, worthy of Stoever himself.) 'Houses and goods are inherited from parents, but a sensible woman cometh from the Lord.' 'Come to me, beautiful rose of the northern forest,' was now Linnæus's constant cry. 'I, who "refused to enfasten the roots of my floating existence," now only ask to be tied.' But Elizabeth was not to be betrayed into unthrifty matrimony. They were formally betrothed, but he was to secure a livelihood before they could be married.

Papa Moræus worshipped one graven image—that of his sovereign on the copper dollar ; and Elizabeth was her papa's own daughter ; therefore the fittest wife in the world for the careless Linnæus.

## CHAPTER XV.

## LIFE AT STOCKHOLM.

Reuben and Rachel, though as fond as doves,  
 Were yet discreet and cautious in their loves,  
 Nor would attend to Cupid's wild commands,  
 Till cool affection bade them join their hands.  
 When both were poor, they thought it argued ill  
 Of hasty love to make them poorer still.

*CRABBE'S Parish Register.*

LINNÆUS could not be allowed to marry till some prospect of a permanent establishment should be discovered. Stockholm was thought of as a promising abode.<sup>1</sup> His own longing was towards Upsala, his Alma Mater, whom he wished to endow with the lustre of his discoveries. But here there was no opening, nor likely to be one soon enough to satisfy a lover's impatience. His future father-in-law ridiculed his botanical researches as 'drawing his attention from the practice of medicine, which was his safest means of subsistence.' Extraneous studies are always viewed by the narrow-minded as an obstacle to success in any profession: and Carl's former friends were more inclined to view him from the standpoint of their

<sup>1</sup> Pulteney.

former equality than to look up to him on the height he had attained.

Next to settling at Upsala Linnæus would have preferred remaining at Falun, having always the tendency, natural to a character at once practical and speculative, to take up the duty that lay nearest, so making himself the centre of an ever-widening circle; feeling that a ruling Providence had placed him in the spot he was to make the best of, less for his own worldly advantage than for the good of the place to be benefited. Life at Stockholm would still be a floating existence, for a professorship at Upsala was ever the goal of his ambition. In science he was famed for the 'felicity of his conjectures,' opening out light to new paths. But felicitous conjectures, philosophic flowers, would never enable him to marry: he must have fruit, and for this he must fix himself firmly to some ground by roots, and at Falun every spot of ground was preoccupied. Moræus and his friends never dreamed of the possibility of Linnæus enlarging the area.

There seemed no room for him on the miniature stage of Falun. His enviers—for he had some enviers even at friendly Falun—implied that a peacock must have room to swing his tail round. Perhaps he gave himself airs. Their village vanity was fretted; they were under an eclipse so long as the brilliant young discoverer, sparkling with the new knowledge reaped in foreign lands, was present. They were kindly, perhaps hypocritically, apprehensive that he would not be able to exist in a



quiet Swedish town 'after having so long conversed with the first men of the first cities of the world.' He was too broad for them, his enviers, as well as for the narrow-minded honest folk, who really wished him well : they were alarmed for him, regarding as they naturally did all innovations with distrust.

Whoso wanders like Ulysses  
Soon shall lose his prejudices.

They still hugged theirs fondly. But his old friends were still his friends ; the envious were few in comparison with his friends at Falun. And this point shows his tact ; for, as Ben Haydon says, 'One of the most difficult things in this world is the management of the temper of friends when you first burst into public repute and leave them in the rear.' Probation ended, Linnæus was now a master and doctor of his craft. The only question was, What was his craft ? Botany did not seem to be a business.

His chief occupation was making love and picking flowers—the flower called love-in-idleness. He was now thoroughly restored to health by repose and the prospects of his future happiness, which hardly seemed future while he was walking with his Elizabeth in the exquisite woods—not at ugly Falun, but at Sveden, her father's country house near by,—which here and there show that nature's beauty has not been entirely destroyed even by the poisonous exhalations of the copper-mines : love called, and poetry awoke, and together they found the lovers a home in nature, embowered by the birch trees.

With tremulous silvered trunk, whence branches sheen  
Laugh out, thick-foliaged next, a-shiver soon  
With coloured buds, then glowing like the moon  
One mild flame—last a pause, a burst, and all  
Her ivory limbs are smothered by a fall,  
Bloom-flinders and fruit-sparkles and leaf-dust.

He stood beneath her window, by the hawthorn-tree that looked like a ghost at night, being so full of bloom ; while the nightingale warbled the serenade. But ‘ idleness, except as the condition of renewed labour, is culpable and base,’ and Linnæus felt no temptation to this sin. He was too eager to realise his happiness—to have Elizabeth all his own ; and she had too much practical good sense to try to keep him and still longer delay their marriage ; so he set out for the capital.

‘ Stockholm received Linnæus in September 1738 as a foreigner,’ which so disgusted him that he would have gone abroad again had not the love of his country detained him. He compared himself to the floating islands of the Swedish lakes. His pretensions were backed by neither university, as he was not attached solidly to either of them, and Harderwyk had only given him his degree. He ‘ found himself treated with neglect and dislike. His abilities created envy rather than inspired confidence.’ A prophet is seldom honoured in his own country. ‘ At every place abroad he had been recognised as *princeps botanicorum*, and in his own country he was looked upon as a Klim, arrived from the subterranean world.’<sup>1</sup> Was Stockholm also too small for him ?

<sup>1</sup> Stoeber.

It was not that, like Werther, there was no room in the world for him—there is always room for a young man who sets in order Nature's disturbed affairs, or brings to light her hidden treasures. What he needed was the standpoint for the sole of his foot while he worked his lever which was to stir the world. The pre-occupants of this ground were up in arms to challenge his theories, and what they were not clever enough to do for themselves they called in foreign auxiliaries to achieve for them. These allies were chiefly Germans, who knew Linnæus least. The German spinners of cobwebs naturally liked him less than the French; because he held a clear light to nature, and they preferred seeing it through smoked glass. German philosophy at that time 'consisted a good deal in calling names.' Carl was in the front of battle once more.

Ludwig of Leipsic and Haller are called by Smith 'Linnæans in disguise.' Haller continued all his life to disagree with Linnæus on many points, and often expressed himself with asperity or sarcasm, as in reviewing the '*Fauna Suecica*' he says, 'Linnæus can hardly forbear to make man a monkey, or the monkey a man.' What would Haller have said to Darwin?

Linnæus had always generosity enough to accept with forbearance the criticisms of a really great man such as he recognised Haller to be. He writes as follows to the illustrious German: 'The more errors of my own that you can point out, the more I shall be obliged to you. By such means I may be enabled to correct all that

is wrong before I die, for no one can amend his own works in the grave.' Linnæus was not jealous, even of Haller. 'Of whom in the world could he ever be jealous?' asks Sir J. Smith indignantly. Both these great men have been accused of vanity. 'If vanity were never found but with such pretensions, one would almost forget it were a weakness!'<sup>1</sup> But such accusations are no proof; for, as Goethe writes to Carlyle, 'those who live with superior men are easily mistaken in their judgment. Personal peculiarities irritate them. The swift-changing current of life displaces their points of view, and hinders them from perceiving and recognising the true worth of such men.' This is a roundabout and German way of saying that 'no man is a hero to his valet.' Linnæus could respect the criticisms of a Haller; but for the lesser fry—Siegesbeck and the rest—who with 'vociferous platitude' brayed out against the man who had called their science compilation, and declared that the world was already overburdened with catalogues, 'which require no abilities in their composition, and answer no purpose when done'—Linnæus did not waste his time in answering these cavillers one by one and point by point.<sup>2</sup>

He had cracked their theories across; the fabric stood, to outward seeming, much the same; but that

<sup>1</sup> Smith.

<sup>2</sup> There is a small volume, edited by Stoeber, Hamburg, dated 'MDCCLXXXII,' containing Linnæus's letters to Albert Haller, to Pennant (in Swedish), to Thunberg, and Gieseke, Wallerius's theses against Linnæus, the *Orbis Eruditi*, &c.

hair's-breadth break destroyed its strength and value. Linnæus produced a new vase. Heister was his most violent and implacable adversary, chiefly by the pen of his pupil Siegesbeck, whose pamphlet Linnæus says 'affords no arguments: his whole book is one uninterrupted strain of obscure and arrogant vituperation.' Linnæus made no reply to his invectives. 'Heister screened himself behind his pupils,' which was mean. Dr. Möhring, defending Linnæus, writes to Haller, 'If those literary brawlers had but so earnestly exerted themselves in botany as Linnæus, they would see that it is easier to criticise than, by dint of the most arduous observations, to discover truths and give new elucidations.'

Carl was always keenly alive to ridicule; the native pugnacity of the Scandinavian always rose quickly in him, and he burned to fight it out. 'Oh, that these pseudo-scientists had but one neck, and I could——' was his feeling, which he checked and controlled. It passed, the qualm of rage and passionate disappointment. Linnæus was himself again. Boerhaave's counsel saved him. 'The attacks of the whole phalanx of his foreign opponents could not induce him to accept a challenge. The method of his vengeance was equally original and piquant.'<sup>1</sup> To the outside world he wore that natural ease and grace, that courtesy and self-restraint, which he had fresh-polished up in France. He had shown he was not one of those 'ensigns and

<sup>1</sup> Stoever.

lieutenants that run over 5,000 miles of country in five weeks on leave of absence, and then return looking as wise as the monkey that had seen the world.'<sup>1</sup> 'The fact of the more positive formation of his own opinions brought him more immediately into collision with the positive opinion of others.'<sup>2</sup> His views were no longer in the jelly state that readily takes impression from moulds they come in contact with.

'Let the fellow make a system,' thought Linnæus, though he disdained to speak his mind to Siegesbeck, 'and he will answer himself.' Linnæus was disgusted by the prejudiced ignorance which puffed itself up to outvie his careful study and earnest work. He knew where he had failed; his detractors had never done anything great enough to be called a failure. 'If that eagle is represented as trying what he can't do, it's an honourable ambition after all,' says Sam Slick of the American bird.

Linnæus wrote an account of all this to Haller. 'I took up my residence at Stockholm. Everybody laughed at my botany. Not one could tell how many restless nights and toilsome hours I had bestowed upon it; but every corner resounded with the humiliating lesson I had received from this Siegesbeck. I began to set up for a practitioner, but my success was very slow. They would not even employ me in a servant's cure.'<sup>3</sup>

His only open and avowed enemy in Sweden was Wallerius the mineralogist, Rosen's *protégé* and pupil.

<sup>1</sup> Sam Slick.

<sup>2</sup> Dean Stanley.

<sup>3</sup> Stoever.



He hoped to gain celebrity by ridiculing Linnæus, and to make his own fortune. He undermined both. He had long to wait for the preliminary professorship at Upsala. It was in answer to him that Linnæus published his only anonymous work, and the only apology he ever wrote on his own behalf—the ‘*Orbis Eruditi Judicium de Caroli Linnæi, M.D., Scriptis.*’<sup>1</sup>

‘The attacks of his adversaries did not fail to wound his ambition. Yet, remembering the advice of his revered friend Boerhaave, and being of too high a cast of mind to entertain asperity or indulge in splenetic invectives, he wisely resolved to abstain from controversy. He took another method to counteract the injurious influence of his opponents; and it would be well if all naturalists would act in the same dignified way when repelling ill-natured attacks. He thought something was due to his countrymen, to show that all men of learning did not agree with his libellers,’<sup>2</sup> and he published a small work containing the various testimonials given to his talents by the most eminent men of the day. ‘He made no comments, but allowed opinions to be formed from authors who could not be contradicted, and relied on the judgment which would be given upon the words of a Boerhaave, a Dillenius, a Sauvages, a Jussieu, and a Haller.’

This work is now very rare. It is only one sheet in small octavo. Scarcely two copies of it are to be

<sup>1</sup> *Opinion of the Learned World on the Works of C. Linnæus.*

<sup>2</sup> Sir W. Jardine.

met with in all Germany, says Stoeber, writing in the last century. Our copy in the British Museum is dated 1740; but all the biographers of Linnæus aver that it was written and published in 1738. For my part, I have doubts, and should place it after his marriage, when he was prosperous and therefore had more enviers. It is a sort of book of fame, such as men of this century make of newspaper-cuttings concerning themselves.<sup>1</sup> The title contains the favourite motto of Linnæus taken from Virgil: 'To raise fame by deeds is the task of the noble-minded':

Famam extendere factis,  
Hoc virtutis opus.

and on the back is Gronovius's inscription on the image of Linnæus: 'In spite of fate, from the Danube's mouth to the frigid North shall thy name be known.'<sup>2</sup> Then follows a short sketch of the principal incidents of the author's life, and a list of the different works he had published, with their divers editions, making altogether twenty-one; besides the names of those who have publicly accepted and vindicated his system, with printed or written epistolary opinions of twenty learned men, among whom are the most illustrious botanists of that day—five Dutchmen, four British (including Sir Hans Sloane), four Frenchmen, two Swiss, and five Germans. Boerhaave calls his book, the

<sup>1</sup> In this book Linnæus says, 1735, '*Iter per Daniam, Germaniam, Belgium*, Jun. 23, M.D. at Harderwyk.'

<sup>2</sup> Gronov. in *Nomen Linnæi*, '*Ne succumbe malis: Te noverit ultimus Ister, Te Boreas gelidus.*'

‘*Genera Plantarum*,’ ‘a performance of infinite diligence, extraordinary industry, and incomparable knowledge. I cannot sufficiently praise it.’ Van Royen calls him the prince of botanists—a title which has been allowed him ever since. De Sauvages professes himself astonished that so young a man could publish so many and such various works. Haller says, April 1738: ‘What do you care for Siegesbeck? Was there ever a man who embarked in a new and grand enterprise unenvied?’ He says of the ‘*Genera Plantarum*,’ ‘Its whole plan is unborrowed, unattempted, and original. It is built on the strictest examination of 8,000 plants. But what Linnæus has done none has ever attempted or thought of.’ All this wrangling was hidden from the world behind the Latin language.

‘The winter of 1738 nipt the laurels he had gathered in Holland,’ says Stoeber in his own inimitable way. ‘Æsculapius, at his first setting out, proved as unkind as Flora. Nobody would entrust a botanist with the curing of patients.’

The prudent Elizabeth, or her friends for her, could not look without a shudder on the prospect of marriage with one ‘whose abilities, however great they might be, seemed only to unfit him for any usual or profitable pursuit.’

‘The only mark of distinction he obtained was at a sitting of the Academy of Sciences’ [of Upsala?] ‘on October 4 at the illustrious senator Count Bonde’s (then president) of Stockholm, when he was unanimously

chosen one of its members.’<sup>1</sup> ‘The scientific merits of Linnæus were not overlooked, as he was unanimously chosen a member of the Upsal Academy, the only one then in Sweden. Yet the homage he had so lately received abroad seems to have made him a little unreasonable on this head, and he declares he would certainly have quitted his native country had he not been in love.’<sup>2</sup>

He had almost resolved to quit Sweden; and had a letter from Haller come to hand in reasonable time Sweden would have lost her child, the ornament of her house. Haller showed himself grand and noble. This eminent man, indignant with the neglect of Linnæus shown by his countrymen, generously proposed to resign to him his own professorship of botany at Göttingen. ‘Return once more to gentler climes,’ he writes. ‘I have pitched upon you—if you like the offer—to be the heir of the garden of this city and of all my dignities.’ Haller himself expected to be recalled to his native place, Berne. In a later letter—January 19, 1739—he repeated the offer; but Linnæus did not receive the letter till August 12, when his circumstances had changed for the better. He wrote, however, with liveliest thankfulness to Haller: ‘A brother cannot be kinder to a brother, a father cannot treat better his only son. I have had intercourse with many men; many have shown me affection, but none so much kindness as you.’

Linnæus was full of the liveliest gratitude for this unlooked-for kindness, ‘for Haller had never warmly

<sup>1</sup> Pulteney.

<sup>2</sup> Smith.

‘loved him as the Dutch had done.’ But the tide had turned at home, and ‘Linnæus was enabled at length, according to his anxious wish, to remain and fix the throne of natural history in Sweden,’<sup>1</sup> whence for a generation he firmly ruled the realm of nature. Haller loved Linnæus little, but he loved science much; which was the reason for his generosity. They were opposed on many points, but both their hearts were rooted in one love.

Haller, who seems to have been above human weaknesses, scorned in Linnæus his ‘childish vanity’ and his foibles, especially his habit of naming the beautiful and valuable plants from his friends, and ugly and noxious ones from his foes; justifying Haller’s objection to the practice of naming new plants after persons. The rose would never have had its name, had Linnæus, Rosen’s enemy, had the naming of it.

Yet Carlyle tells us ‘Haller concluded his literary career with a romance. No mortal now reads a word of it.’

Linnæus, in a letter to Haller, dated September 12, 1739, finished September 16, writes, ‘All with one voice declared that Siegesbeck had annihilated me. I was obliged to live as I could in virtuous poverty. If I should not obtain the botanical professorship at Upsala, and you at the end of three months should invite me, I would come if I might bring my little wife with me.’ He offers a copy of the ‘*Hortus Cliffortianus*’

<sup>1</sup> Stoecker.

to Haller, but one had by this time come to hand from Clifford.

At last the post was to take a hopeful letter from him to Falun.<sup>1</sup> He writes, 'I have undeservedly got into so much practice that from seven in the morning till 8 P.M. I have not even time to take a short dinner.' Times were changed from when he was not called in to a sick servant; for the contemptuous reason, 'What could a mere botanist know of the art of healing?' He was now called to the great; 'everything turned out prosperously; no patient could be cured without me; from 4 A.M. till late at night I visited the sick, spent nights with them and earned money. Alas! said I, *Æsculapius* affords all that is good, but *Flora* yields only *Siegesbecks*. I renounced botany and resolved a thousand times to destroy all my collections for ever.'<sup>2</sup>

'He was called to the lady of an aulic councillor, troubled with a prevalent cough; Linnæus prescribed a remedy which she could carry by her for constant use. This lady was one day at court at a card party with Queen Ulrica Eleonora. While playing she put something into her mouth. 'What is this?' asked the queen. 'A remedy against the cough, may it please your Majesty; I always find myself much relieved after using it.' The queen had a cough at that very time. Linnæus was called; he prescribed the same remedy,

<sup>1</sup> The Swedish post-boxes amuse strangers now with their inscription '*Tommes nästa gang*,' which we familiarise into '*Tommie's next go*.'

<sup>2</sup> Linnæus to Haller.



and the queen's ailment disappeared. Thus did the cough first introduce him to court and there advance his prosperity.'<sup>1</sup> He soon became the fashionable physician of the capital. Linnæus was now sought by the rich and powerful; not so much for his talents and genius as for his popularity. He had a way of putting himself *en évidence*, so that it was almost impossible to overlook or forget him, and he now began to acquire the knack of managing bodies of men, and to learn to work in co-operation; among these men his great personal ascendancy was at once felt.

Linnæus became acquainted with the learned Captain Triewald, who was projecting the institution of an Academy of Sciences in the metropolis, 'concerning which he frequently consulted Baron Höpken, Jonas Alström,<sup>2</sup> and Dr. Linnæus.' These persons met, formed their regulations, and laid the foundation of the academy in May 1739. They drew lots for the offices, and that of president fell on Linnæus, which was fortunate, as he possessed in a remarkable degree the qualifications of a president—grace of manner, and tact for the ceremonial duties; eloquence for the necessary speechifying; besides learning, to give weight to the office and value to his casting vote.

Stoever, speaking of Count Tessin as his great Mæcenas, says, 'By his interest he laid the foundation of the Royal Academy of Sciences at Stockholm.'

<sup>1</sup> Stoever.

<sup>2</sup> The *alstræmeria* is named after him.

‘The Literary Academy of Stockholm rose to great eminence, and still continues to flourish, having published numerous volumes of Transactions (in Swedish).<sup>1</sup> Its objects were declared to be natural philosophy, natural history, chemistry, medicine, anatomy, surgery, mathematics, economy, commerce, arts, and manufactures. So wide a range might have been feared to endanger its success; but though in its progress these various studies have from time to time predominated by turns, they seem not to have clashed with each other. A portion of its transactions has been published in Latin at Venice under the title of “*Analecta Transalpina*,”<sup>2</sup> which is some reproach to other countries of Europe, where they are so very little known.’<sup>3</sup>

‘During the sitting of the Diet Count C. G. Tessin sent for Linnæus and asked if there was anything he wished to request of the Diet, as the count was fully convinced that the states of the kingdom would feel a pleasure in showing favour to a Swede who had distinguished himself so much abroad. Linnæus had nothing to request just then.’<sup>4</sup>

Was it the effect of intention or of chance that a birthday present should have been made him in this way? ‘On May 13 Count Tessin desired him to con-

<sup>1</sup> Smith.

<sup>2</sup> These Transactions have been partially translated into German by Klein. They form an interesting collection of papers.

<sup>3</sup> Among the privileges of the Royal Academy of Stockholm was that of free postage of all papers directed to the secretary.

<sup>4</sup> Diary.

sider, and return an answer next day. Captain Triewald advised Linnæus to make application to the Board of Mines for the 200 ducats annually which he, Triewald, had formerly enjoyed, and which were not yet disposed of. Count Tessin received this petition May 14, and desired Linnæus to call again at dinner-time. In the interim Tessin presented the petition to the committee, and at dinner-time he congratulated Linnæus, informing him that the states of the kingdom had granted his petition on condition that he would give public lectures on botany in summer at the House of the Nobles, and in winter on the collection of minerals belonging to the Board of Mines.' <sup>1</sup>

'Count Tessin had in the meantime spoken to Admiral Ankarkrona about giving the office of Naval Physician at Stockholm to Linnæus, who was sent for by the admiral, who informed him that this office was vacant, and if Linnæus wished to have it he should be recommended. On May 3 <sup>2</sup> Linnæus was appointed by his Majesty Physician to the Navy.'

This is not, I suppose, the same as doctor in the navy, as he is sometimes called; it is, perhaps, more like the office of Medical Director-General of the Navy, on the small scale required by Sweden at that time.<sup>3</sup> Linnæus would not have undertaken the former office, as medical practice was always irksome to him, and he would

<sup>1</sup> Diary.

<sup>2</sup> Was the appointment antedated?

<sup>3</sup> A position analogous to that of Inspector-General of Hospitals and Fleets in our navy.

scarcely have consented to go afloat so close upon his intended marriage.

‘Within one month, therefore, Linnæus was appointed a public teacher at the House of Nobles, with a pension; physician to the Navy, with pay; and first president of the Academy, with distinction.’<sup>1</sup>

‘Count Tessin offered Linnæus not only to live in his (the Count’s) house, in the same apartment where he himself used to lodge when he was a bachelor, but also to eat at his table, where the greatest men in the kingdom met during the Diet.’<sup>2</sup> This was a more genial circle than the exclusively scientific society Linnæus had met with in Holland; here at least they could all speak Swedish.

As this was the Diet when the two parties of Hats and Caps<sup>3</sup> chiefly began, Linnæus, who took the same side as Count Tessin, was jokingly styled in general by the Hats their Archiater; from which circumstance, as nothing succeeds like success, Linnæus’s practice increased so much that he alone had as much as all the other physicians collectively, and from this time was in receipt of as much as 9,000 copper dollars<sup>4</sup> at Stockholm.

This was a mighty fortune truly; the other doctors in Stockholm must have been lean.

<sup>1</sup> Diary.

<sup>2</sup> Ibid.

<sup>3</sup> *Hattar och Mossor*—in the Academy this was a friendly faction of Blues and Greens, and perhaps a parody of the peace and war parties at court, nicknamed ‘Nightcaps,’ or simply ‘Caps’; the war-like party was known as ‘Hats.’ The Hats recklessly plunged into the Seven Years’ War in 1757.

<sup>4</sup> About 250*l.* sterling.

He considered this as the proper time for enjoying the fruits of his labour, and begged that his wedding might take place; <sup>1</sup> and at last, all opposition over—for who could resist such a fortune and such prospects as his?—he married his Elizabeth on June 26, 1739, at Sveden, the country house of her father near Falun, after a five years' engagement!

The two wedding-stools, on which a Dalecarlian bride and bridegroom sit in state wearing their lofty crowns, upholstered in striped brocaded satin tabinet, are still preserved.

Dear, precious old Stoever improves the occasion. 'Our luminary,' as he most often calls Linnæus, 'now sealed the conjugal bond.' Now that he had 'entered the garden of Eden,' Haller calls him, in half-derisive, half-playful skirmish, a second Adam, giving names to the animals. Peter Collinson, the Quaker, wrote to his dear friend to congratulate him on his marriage. Haller also writes, 'May you long live happy with your Moræa, and enjoy deserved fame.'

'Life is quite a different thing by the side of a beloved wife, than so forsaken and alone, even in summer. Beautiful nature, I now for the first time fully enjoy it, live in it. The world again clothes around me in poetic forms; old feelings are again awakening in my breast. . . . Fate has conquered the difficulties for me; it has, I may say, forced me to the mark. From the future I expect everything.'<sup>2</sup> Linnæus might securely reckon

<sup>1</sup> Diary.

<sup>2</sup> Schiller; Carlyle's trans'ation.

upon a good deal. He had conquered his position by sheer force of will ; he

Had miscellaneous large experience —had  
Of human acts, good, half and half, and bad.

By industry and tact he had gained, without undue dorsoflexions, a fixed point whence to step to higher and higher positions. Anticipating Schlegel's solution of the mystery of life, 'the strife of necessity against the will,' Linnæus had harmonised the two and made himself happy.

I have dared  
Come to a pause with knowledge, scan for once  
The heights already reached, without regard  
To the extent above ; fairly compute  
All I have clearly gained ; for once excluding  
A brilliant future to supply and perfect  
All half-gains and conjectures and crude hopes.<sup>1</sup>

In his chosen profession (natural history), without being in the least a poet, in the sense of being a versifier, Carl had the keenest sense of what there was in it of beautiful, or delicate, or ideal, 'drinking in deep in his soul the beautiful hue and the clearness' of love, that gives a light to everything, as the southern sun illumines even rags to gold and silver tissue, and squalid buildings to a chiaroscuro of artistic splendour. But, as with all men of talent, the science of erotion could not be exclusively nor indefinitely studied. Carl's heart beat in his brain ; and though he could not anatomise his love, he knew its capabilities and uses, and in due time he folded up its robes of state and laid them aside ; his

<sup>1</sup> *Paracelsus*, Browning.



wife put chintz coverings on the bridal stools, while he turned up his shirt-sleeves and went about his business again, invigorated by the full draught of that rich wine of life. Clough calls it

A needful human discipline to wed.  
 Novels of course depict it final bliss—  
 Say, has it ever really once been this?  
 A sort of after-boyhood to enjoy appeared.  
 Wiser tradition says, the affection's claim  
 Will be supplied, the rest will be the same.

It would be pleasant to believe that Linnæus lived happily for ever after, but that would be the end of the book. Where the novel ends the tragedy begins—so most of his biographers declare to have been the case with Linnæus.

‘The lady brought him a considerable portion, and by her thrifty disposition was likely to increase wealth rather than happiness.’

His wife is described as a domestic tyrant. But he himself never says so, though he dwells at no length on the subject; he speaks of her as just the wife needful for him. If she was unamiable, perhaps there were extenuating circumstances; men of genius are generally ‘gey ill to live wi’; even Sir Thomas the Good of the Ingoldsby legend was a trial to slim Lady Jane; and we all know what Mrs. Carlyle had to put up with from her philosopher. Linnæus was careless with his money, while his Elizabeth, brought up in a ‘near’ family, could not endure a lavishness so foreign to her traditions. Linnæus, too, tried all manner of experi-

ments and nostrums at home, many of which he called 'economical notions.'<sup>1</sup> I dare say Mrs. Linnæus had often to call him to order. Scientific men, natural historians especially, have a way of expanding themselves about the premises until there is no space left fit to use or to sit down on. Spectators, who visit the learned husband for the sake of natural history, are apt to construe into domestic tyranny the necessary household regulations, without which there would be no comfort in the house at all. Anyway, it is ill standing between man and wife. Linnæus was satisfied, so we may suppose him happy.

He stayed rather more than a month in bliss at Sveden and Falun, and we may infer that he carried his beautiful bride to Upsala to show off his happiness to his friends and enviers there, as the diary says it was September 12 (1739) when 'he again went to Stockholm to resume the duties with which he had been entrusted.' He remained three years in all at Stockholm.<sup>2</sup>

It must have given him great pleasure to show to his Elizabeth the beauties of the capital, the charming Northern city that enchants all visitors; that to-day abounds in enjoyments of scenery, gardens, excursions, music, animation, and all the delights of a pure gaiety, with abundant intellectual culture.

'At the end of September he laid down the presidency of the Academy of Sciences,'<sup>3</sup> an office of three months' duration, after the French plan. 'By

<sup>1</sup> *Äfven ekonomisk.*

<sup>2</sup> Turton.

<sup>3</sup> Diary.

their laws it was ordained that a short discourse should be delivered by the person who went out of office; but Linnæus'—who was as fond of public speaking as our Gladstone—'made a formal oration,' a most admirable speech in Swedish,<sup>1</sup> 'captivating his audience by the beauty of his observations, on "What is remarkable in Insects," which pleased everybody; and the custom of giving an oration was followed by all the presidents afterwards. This oration was printed by order of the Academy; it went into seven editions and translations. 'The author of this discourse,' says Chevalier Bäck, 'was an animated and sprightly painter, who captivated his readers and excited in them a kind of ecstatic rapture.' To us the speech reads something like a chapter taken out of White's 'History of Selborne.' Such observations had at that time infinite freshness and novelty. In a separate paper Linnæus wrote on the insects destructive to books. About this time he wrote a paper in the Transactions of the Academy of Stockholm, 'On laying the Foundation of Economics on Natural History and Physics.' This was always a favourite subject with our author, who has proved in various parts of his writings, and in a very striking manner, the close connection subsisting between the sciences of natural history and rural economy of every description. This was quite a novel idea at that time.

Linnæus was pre-eminently a practical man, although in hygienic science he was a century in advance of the

<sup>1</sup> Stoever.

rest of the world. In his practice as a physician, it was palpable to him, going from his fine rooms at Count Tessin's, that in the small rooms of his patients, if the window were open they smelt of the quay, if shut, they smelt of indoors. No one else attended to the subject of ventilation at all. He occupied himself too in considering the best dietetic bread for the navy, in which he was in advance of ourselves even at the present day. We still adhere to the antiquated practice of supplying the navy with the hardest biscuit, notwithstanding that in these days it is as easy to bake fresh bread on board ship as it is to get up steam; and the French and American navies have used fresh bread for years past. We admit no men into our service who have not perfect teeth; we at once proceed to destroy those teeth by grinding them down upon ship biscuit. This is a recognised medical fact. The dietary in Sweden generally is singularly deficient in the point of fresh bread. I delight in their hard rye-biscuit of daily life; but it must be a hardship to many persons to meet so seldom with soft bread.

Linnæus gave especial consideration to salads, which are still almost ignored in the Swedish bill of fare. To the dietetic part of medicine he paid deep attention, as well as to the diseases of Sweden and their remedies, considering particularly the chalybeates of Sweden, and its wild plants, and fruits, as well as to the *Flora Economica*, domestic and exotic. His remarks on tea, coffee, and brandy were written popularly for the Swedish almanacs. He looked upon nothing as more

important, financially, than to shut the gates through which the silver currency went out of Europe.<sup>1</sup> This is a broadly economic idea. But Sweden was the part of Europe the patriotic Linnæus cared most about. He wanted to turn her copper dollars into silver ones.

A thoroughgoing patriot looks complacently all around him. Even the Esquimaux in the far frigid zone thinks no other whale-fishery half so good as his own. We all know Sam Slick's opinion of Nova Scotia; but as it applies so well to Sweden, I must quote it.

'Now this province is jist like that turtle soup, good enough at top; but dip down, and you have the riches, the coal, the iron ore, the gypsum, and what not. . . . I never seed or heard tell of a country that had so many nateral privileges as this; harbours and water-powers and scenery. They have iron, coal, slate, grindstone, lime,<sup>2</sup> gypsum, firestone, freestone, a list as long as an auctioneer's catalogue. Their shores are crowded with fish, and their lands covered with wood.'

Linnæus's patriotic feeling carried him too far when he said the bill of fare in Sweden was more varied than in any other country. Certainly there is in every house a sideboard spread with numerous small glass dishes, about which all the gentlemen hover in embarrassment of choice. The pretty maiden-in-waiting helps them to choose 'bifstake' and beer (Elizabethan fashion) for their solid breakfast, while they still study natural selection

<sup>1</sup> *Amœnitates Academicæ*.

<sup>2</sup> There is very little lime in Sweden.

at the sideboard, finally pitching on a dab of pickled herring laid on bread and butter. But the variety of these 'whet-your-whistles' is more apparent than real, when you have excluded the potted provisions which you loathe, are grown tired of anchovies, and not grown used to caviar; as you abhor slices of sausage, all the rest is comprised in hard egg cut in slices, and slices of cold veal dried *au naturel* for six days past. Ham and cheese do not count, for these fixtures are immutable as the triple-spouted urn holding spirits in the centre. One is obliged to buy oranges in lieu of vegetables; dessert, fruit tarts, and puddings are a sweet dream. Most people on their return from a tour in Scandinavia take to violent courses of lemonade and cauliflower.

Linnæus was appointed botanist to the king of Sweden, and besides this he endeavoured in every way to develop the whole resources of the country in every department of natural science, and to improve the public hygiene.

This seems a vast range of thought for one man to include in his attention. But, talented as he was, Linnæus was not really versatile: he widened his road; but his goal was a fixed point, the botanical chair of Upsala.

'In the spring of 1740 Professor Rudbeck died, when Rosen, Linnæus, and Wallerius were put up as candidates'<sup>1</sup> for the professorship at Upsala. This was

<sup>1</sup> Diary.



Linnæus's especial ambition, the dream of his life, and his friend Count Tessin warmly recommended him to Count Gyllenborg, the chancellor of the university. But Rosen had a prior claim—he had been at Upsala the longest, and from his merits, for he was a worthy rival to Linnæus, it was impossible to pass him over; and even Linnæus admitted the justice of the claim.

Linnæus was promised the next vacancy, which must occur soon, in view of Professor Roberg's advanced age, and Rosen obtained the coveted chair of botany. Linnæus, with his softened heart and enlarged views, was able to allow that people, including even Rosen, 'may be better than we fancy, and have more in them than we fancy.'

War began, and in his position as naval physician Linnæus feared that he should have to attend the fleet; but for the present he only remained attached to the hospital at Stockholm. His departure at one time seemed so imminent that it seems to have been his reason for sending or taking his wife to the care of her father at Falun. On January 20, 1741, his eldest son Carl was born at Falun, and in the spring of this year an order came from the Academy of Sciences for Linnæus to go and explore the islands of Öland and Gothland on behalf of the Government, and make a full report upon them—their products, capabilities, and their natural history in general—with a view to advancing the home manufactures.

The family returned, accompanied probably by a

brother of Elizabeth's, to Stockholm, as early as the thaw made it practicable for them to do so. How glad the people living on the Swedish seaboard are when the ice blockade breaks ! Both seasons of summer and winter have their advantages, especially in making travelling easy ; it is the changing weather that makes locomotion so thoroughly impracticable.

## CHAPTER XVI.

## ÖLAND AND GOTHLAND.

‘It is very sweet in the midst of this soul-confusing phantasmagoria to know that I have a fixed possession elsewhere; that my own Jeannie is thinking of me, loving me—that her heart is no dream like all the rest of it. Oh, love me, my dearest—always love me. I am richer with thee than the whole world would make me otherwise. . . . But is not a little temporary separation like this needful to manifest what *daily* mercy is our lot, which otherwise we might forget, or esteem as a thing of course?’—CARLYLE.

LINNÆUS’S disappointment about the professorship at Upsala was softened by the choice made of him by the Swedish Diet to organise and carry out a series of tours through the least-known provinces of South Sweden, in order to promote useful knowledge and further the improvement of agriculture. The first expedition was to the islands of Öland and Gothland, and in this he was to be accompanied by six subordinate naturalists.

Thus instead of being obliged to join the navy and go afloat as he dreaded, the opportunity of employing and distinguishing himself in his own line was afforded him.

‘In Öland and Gothland, he was directed to notice every production of nature that might supersede the

necessity of importing any article used either in medicine or manufactures.’<sup>1</sup> He was to examine the anti-quitities, stones for use in the arts, and economics generally. ‘In the execution of his plan he went much farther than his commission extended, throwing his soul into the work,’ and compassed much of collateral utility to Sweden, and the islands themselves. As one small instance, the Salt grass, called in Öland ‘Salting,’<sup>2</sup> he recommends farmers to cultivate with attention, having remarked how much it was relished by cattle and horses, and how salutary and medicinal it proved to be to those animals. On the other side, he first pointed out to the Ölanders the use of the reed *Arundo arenaria* to arrest the sand and bind the soil upon the sea-beach, as he had seen it used on the dunes of Holland—or had he also suggested to the Dutch the use of it? His discoveries in drugs and minerals, and his observations in zoology and botany, are copious and valuable. During this tour he made a catalogue of one hundred plants, now first discovered to be natives of Sweden.

One object of the *Iter Ölandicum* was to discover an earth fitted to make porcelain. In this he was unsuccessful.<sup>3</sup>

<sup>1</sup> Diary.

<sup>2</sup> *Triglochin maritimum*.

<sup>3</sup> Would the rotten, oily, damp building-stone of Öland grind down into porcelain? or is it not of fine quality enough? The finely-ground Swedish felspar used in the Worcester potteries is a most valuable component of that porcelain. It is of a delicate pinkish hue.

He spent two months of the summer of 1741 exploring these two islands. His mile-reckoning and the quality of the inns are very briefly pointed out in his diary, which he gives to his fatherland and the public. He was accompanied by six bachelors—P. Adlerheim, J. Moræus (his brother-in-law), H. J. Gahn, G. Dubois, F. Ziervogel, and S. Wendt, or Waitdt, a young student. Andrew Celsius seems to have fallen in with the party at Kalmar. Linnæus apparently had all the trouble of ‘personally conducting’ the party; this time we are not told of any special distribution of the duties of travel: the right to grumble, if quarters or weather were bad, or horses not forthcoming, seems to have been reserved by each individual. That the journey was arduous, at any rate to the director, may be inferred from the fact that Linnæus preferred to take his future journeys alone to being encumbered by travelling-companions. He works on the same system as in Dalarne, but now he is geographus, physicus, secretarius, mineralogus, botanicus, zoologus, œconomus, domesticus, stall-meister, quartermaster, adjutant, &c., all in one. The writing too is all done by himself. This tour has never yet been printed in English, though there are two German translations of it. Space permits me only to summarise what is really an excellent handbook to the islands.

‘*May 15, 1741.*—We left Stockholm, in the most agreeable springtime, at eleven in the forenoon. The sun shone warm, the air was cool. We took our way

through Sudermania and came to Filja, where we waited long for horses, and thence to Södertelje' [two Swedish miles off], 'a small place in a valley between two heights, having the Mälar Lake on one side and the Baltic on the other.' This place, Södertelje, is now a station on the Gotha Canal.

In Södermanland one still sees remains of the former distinctive costumes of the Swedish provinces, in the large floating draped caps of the handsome maidens of Vingåker (*Vingåkersflickar*). 'Further on the country became more and more inhabited, with wide valleys, tillage fields, and meadows. We came to Pihlkrog towards evening, and hastened on thence to Åby<sup>1</sup> (two Swedish miles), after we had, on account of being unaccustomed to travel, taken a short night's rest.

'Next day felt warm and pleasant after the cold of last evening. We diverged to Trosa (within the island fringe of the Baltic), but saw in the way on both sides of the hill the red streaks which show that the mountain contains copper. Trosa town lies close to the bay, and is very small; there is nothing more to be said of it.' At Gleddeholm, 'a pretty, well-built, noble country seat, with a garden full of spring flowers,' they describe the flowers and butterflies, or rather Linnæus did so: reading between the lines of this journal, we can perceive that the rest of the party found the discomforts of travel surpass its charms. They get on better by-and-by when they have shaken down in their saddles.

<sup>1</sup> Not the Åby by Norrköping.



‘From Åby we came to Svalbro (two Swedish miles) on a more hilly road. Here we had to stay and shiver the whole night, as we had neither horses, nor bed, nor lodgings.

‘*May 17.*—At eight in the morning, as soon as we could get horses, we were off, leaving on the left the beautiful Svalåhammer, and came to Nyköping, a town with elegant houses, broad streets, fresh air, and several stone buildings, besides the ruins of the old castle and the strongly-built bridge in the centre of the town, and its manufactories of brass, morocco leather, and starch.’

Next day they left the agreeable Nyköping, by a good road, with the lark singing in the sunshine. Altogether they felt in a condition to geologise, philosophise, and otherwise fill their private diaries, till in the evening they reached Norrköping, where they employed themselves all next day, till night stopped them, examining the sugar-bakeries, brassworks, clothworks, and the tobacco-factory ‘in which so many little children (!) earn their bread. The gardens are full of tobacco, fritillaries, auriculas, and portulaccas. The town is large, with fine houses, wide streets, three churches, four markets, many gardens, and two burgomasters.’ These towns have greatly improved and increased since Linnæus’s journal was written.

They left Norrköping on the 20th, and continued their way through the hot dusty roads of East Gothland, traversing wide fields sprinkled with juniper bushes, and but few stones. They passed through no large forests,

but the ride was varied by several bowery oak woods. On May 21 they entered Småland, where the land became more and more flowery; and they saw the swallow-tailed butterfly, the finest and largest of all the Swedish butterflies. They noted a runic stone standing on a hill, close by the road, one and a half-quarter mile (Swedish) on the left from Bärge.

At 8 P.M. they came to Ekesjö, 'not a large town, and built without any magnificence.' Here, on the 22nd, they attended Divine service, as it was a fast day, leaving Ekesjö at one o'clock. 'The swallows flew high in the air after the insects, showing us that for all the white clouds we had no rain to fear to-day.'

Towards evening, after a hard day's work at botany, they came to Hvitlanda, where they slept from eleven till two in the morning, and were on horseback soon after 2 A.M., going eastwards to see the Småland gold-mine, which lay one mile and three-quarters (Swedish) from Hvitlanda. Altogether they had a long day at the mines, seeing the washing, smelting, &c., travelling over the finest and best land between that place and Stockholm, on their way to the gold-mines, where they arrived at 6 A.M. A runic stone by the way was so overgrown with lichen that they could not make out the letters, and another in the churchyard was too ruinous to decipher. They seem to have thought more of these things, and of an adder that they met with on the way, than of the gold-mine. Perhaps they were right: no

one would get up and ride off at two in the morning to see this gold-mine now.

On May 24 they came to Wexio, which was more interesting. Here Linnæus took his companions to see his old school and the gymnasium, revisiting his old haunts, 'remembered with the freshness of yesterday.' Any old functionaries still attached to the place may well have been astonished to see the bad boy of the school come back in honour and glory, at the head of a state-directed scientific mission. He called on Dr. Rothman, who must have been delighted with the result of his kindness to Linnæus as a boy. The party stayed here till deep into the 26th, taking up their night-quarters at Lenhofda, where a storm obliged them to remain till 3 P.M. on the 27th, beguiling the time with their collections and notes on the dyeing materials they had found in the mosses, and noticing the country candles, here made from the *Lichen candellarius*, growing on old walls. Here they saw oaks, growing unusually tall and straight for Sweden.

It is a pity, Linnæus says, that the oak, the most useful tree in the kingdom for shipbuilding, besides its other uses, in Sweden grows very crooked and knotty, rarely so tall and slender as the foreign oaks. They pushed on to Kalmar without sleep, arriving there at six in the morning. A week of Swedish travel is as good as a fortnight elsewhere, owing to the long days. The town of Kalmar afforded them a good view of castles, batteries, trenches, redoubts, and other fortifications; its

position on the sea, its fine churches and several massive buildings, gave them much pleasure. 'In the town there is a scarcity of water: although there are conduits at many corners, they are all brackish; only in the castle is a spring of sweet water.<sup>1</sup> The church in the middle of the town is built in the form of a cross, with a four-sided building at each angle. It is without a high tower: internally it is highly decorated with fine church furniture.' The travellers were inconvenienced by finding no place to dine at. After a long search they were entertained at the apothecary's shop, 'more for good words than for money.'

On the 29th was so strong a wind that they could not cross over to Öland, so they examined the town, the castle, and the dye-works. The streets of Kalmar are regular, most of them ending at a gate in the wall, and some at a bridge, or a pier in the sea.

The whole of the 30th was dull, cold, and wretched, with a high wind. Our naturalists were reduced to looking at the shops. It was hardly possible to quit the shelter of the town walls. 'The old ramparts are the pride of the place. Upon them a park-like garden has been created, the ample ground being tastefully laid out with beautiful lawns, groves, hedges ten feet high, and chestnut, elm, maple, apple, and other trees, and a flower garden. From this garden can be seen the Baltic, the island of Öland, and the vessels at anchor.'<sup>2</sup> The long

<sup>1</sup> Water is now supplied in queer old-fashioned street pumps.

<sup>2</sup> Du Chaillu.

isle of Öland acts as a defence to the sound, which is usually calm as a glassy lake. Linnæus wrote a long letter to his wife.

We had better weather than Linnæus had in travelling from Wexio to Öland, journeying thither at just the same time of year. The sun made it warm but not oppressive. The ground becomes less broken soon after leaving Wexio, and beautified with pools and meadows; at Åryd a lovely stream flows beneath limestone ledges by a blue lake, whose surrounding boulders are covered with green velvet moss. The scenery grows wilder again as we pass another lake to the east; and again another lake with islands, red wooden houses, and a timber-station, with boats; and Hofmantorp so fresh and pretty with its blue waters, the tall chimneys of its factories half hidden among the fir trees; another and another lake appear, forming a chain of sapphires through the land. Here the stones have less of the moraine character and more that of the natural rock disintegrated by generations of fir trees. Then the hills become rugged, and on the crisp sparkling lake is Lessebo, another timber-station, busy with donkey-engines and small trucks on a line to run in the sawn planks, &c. Many of the people here wear sabots.

We talked to two girls from the Swedish colony in Chicago, who were just now travelling home to see their friends. One of them had been six years in America, and wore all her best fashionable clothes. The other girl, who spoke English less well, had lived on a country

farm; she was less smart, also less vulgarised, though more ignorant. 'I guess' and 'awfully' came in every sentence they uttered. They said it was much harder to make a living in Sweden than in Chicago.

The lilac is not out yet (May 29), but pansies and cowslips make a sweet foreground to a distant purple lake and clumps of oaks and beeches and blackthorn still in lacelike blossom. The pine forests are less dense here than in most parts of Småland, and it is easier country to till. The monotony of beauty continues until the landscape subsides into a level, cheered by churches with two-storeyed steeples, and the pretty red-tile-roofed cottages at Nybro. More cultivated the land, and more various though more bare the trees, as we approach the Baltic shore, and more commonplace the scenery; the light soil is covered with good clover. Round Kalmar there are poplars, and there are blossoms on the leafless fruit-trees; but there is no specific character to the vegetation, which is backward here, being exposed to the east wind: for, although the large island shelters the sea considerably, it is too low to be much of a protection to the mainland.

It is a lovely sail over the blue sea from Kalmar to Öland in fair weather. The long low island, with a white church or two upon it, can be well seen from Kalmar; and on the other hand the Kalmarnahus, a large building of long and varied architectural history dating from 1200, of picturesque and irregular outline, long remains an object of interest in the scene as one



sails for Öland ; and the square building with four turrets, which no one would guess to be a cathedral, remains still longer in view through a veil of swarms of gnats. The low green shores are fringed (upwards) with masts of the numerous shipping.

The steamer runs past the reef of low islands on the right, with the bell-buoy curtseying close by ; and now the white churches are fully visible on the hill at Öland, and long white beeches stretch out. Now appear dark fir plantations and light-coloured oak woods, looking like willows at this distance ; now fields and farms are distinguishable, and now comes into view a large ruined castle on the highest point of the island. The land stretches out in a low tongue below the imposing ruin, and here is Borgholm, the capital of the island, a place of 900 inhabitants, looking like a mite of a red-roofed village, which it is, with a busy little pier all bustling on the arrival of the steamer. The chilliness of the evening breeze is forgotten in a brisk walk, and while gathering cowslips and orchis on the turf-lands near the shore, watching the sun sink crimson in the sea, and going up by moonlight to the great castle ruins ; the moon rising red like a paler sun. A good pathway prevents one losing one's way down again in the twilight.

A more careful investigation of this wooded hill is as delightful an employment on the following sunny morning.

A German ship's-captain in spectacles mounts the

lofty cairn with the inscribed runic stone, above the refreshment chalet that is just being put in repair for the tourist season. He takes out his watch, times his enthusiasm, studies another (Swedish) inscription relating to lager-bier—a German is always so very thorough—rises in rapture during fifteen seconds over the view, carefully copies down in his note-book an *English* advertisement recommending him to ‘Smoke Richmond Gems,’ and trots on to the castle, after catechising us with business-like directness and abruptness, leaving us with a superior sneer at our lolling on the grass when there is so much to be done in life. He forgets that Swedish summer days are long, and one has time to enjoy oneself therein. Like a true German, he will take his full pennyworth out of the landscape to nourish his *Geist* therewith. The German *Geist* requires a regular solid meal each day, corresponding to the heavy midday corporeal meal of the nation.

How lovely it is up here on the turf! What multitudinous flowers there are all round, and what tones and chords and choruses of colour in the landscape! It is a high table-land region up here with fine grazing-ground for sheep, &c. There are numerous flocks with lambs.

The sap-juices seem to rise, like champagne-beads in a bottle, and swell the oak trees’ golden tufts as one watches them quiver in the azure sky. The pale green blossoms of the elm attract the winged things, as do the light catkins of the acacia-like shrubs; and

delicate young growth of willow branches, that smell like honey, attracts the bees; the ants creep and fly, all hurrying to the well-spread breakfast of the year, in the opening of spring. The richer, fuller autumn meal is more like the courses of a heavy dinner. The large families of rooks, the elegant water-wagtail, the wren (that miniature fowl), the tree-creeper, the yellow-hammer, how they all fly to the feast so bountifully spread, while the cuckoo sings 'Amen' to the grace! The great wide table is all flower-bedecked; here are flowers blue, pink, red, and lilac, all on one stem, a kind of bugloss, but growing more like a forget-me-not; I know the sort of plant, but this is a new variety to me; here are the speedwell, and that purple geranium that one of our great watercolour painters calls the 'most flower-like of flowers.' The tender pale yellow of the young—robinia, is it?—no, it is a strange plant—faintly tinged as if grown in the dark, expands its upper shoots in golden green, forming the choicest contrast with the purple of the distant pines.

Which is the more exquisite, the sapphire or the turquoise, the hue of sea or sky? Both tints enhance the enjoyment of this delicious view, centred by the little blushing red-tiled town of Borgholm glowing like a cornelian as seen from above the oak-woods that creep clustering up the hill slopes, with undergrowth of hawthorn and wild rose, the white-lace veil of the black-thorn, and in the grass many flowers, new friends to me. A little purply grey, hairy, downy flower with six

petals, three outer and three inner, round a tassel of green stamens, and innumerable yellow anthers, must have been particularly noticed by Linnæus, whose system was well-nigh bewildered by it. The flower is set in a fringed collar round the stem, like an anemone, to which family it belongs. Indeed, Linnæus especially mentions it in Lapland and again in Öland. A single blue hepatica is still in flower—how late!—and plenty of a sort of strawberry geranium—nearly the same that we cockneys know and buy at 2*d.* a root in Covent Garden. The people are hurrying to fit up the restaurant *châlet*. A few more days like this and tourists will throng to Öland and the natives will reap the harvest of its beauty. Bædeker says, however, that few tourists come here. Perhaps so; but I think plenty of visitors come from the Swedish mainland, if only for the day.

Two little Öland girls, with black silk kerchiefs on their heads, came from one of the upland villages to have a peep at the castle while we were there. Shyly as they looked at us, we seemed to interest them more than the large ruin itself.

There is an old print of Borgholm Castle in 1634, drawn by J. H. Rhezelius. It has various towers and spires, after the manner of the Kremlin, and Öland's recognised (and conventional) landscape, a road by a low stone wall stretching away and sloping up to a line of distant windmills, and other scattered windmills in the far horizon. Öland grows and exports a goodly quantity of corn, principally wheat. Borgholm Castle is first

mentioned in history in 1280 ; but the present building does not really date before the Renaissance, although the natives claim for it a high antiquity. It is an extensive piece of domestic architecture built upon an arched and fortified terrace.<sup>1</sup> There is also an outer rampart of turf, and a lower terrace, also with bastions. It has not the artistic character of the feudal castle. One sees the ogee moulding, always a sign of late date, in the string course of the cornice, and in the pedestal a string course of rounded stone. Its ground plan is extensive, and the towers are named after different kings and queens of Sweden ; but I should say it was all built at the same date from the one plan. Crowning the brow of its hill, it is an ornament to the generally low island ; but it has little architectural interest. It commands a fine view of the island and the mainland of East Gothland. One plainly sees the external plastering, or stuccoing, which is never seen on fine buildings of early date. I dare say it is its being built of the soft rotten stone of Öland that makes the castle so ruinous : as Linnæus says,<sup>2</sup> ‘the philosopher will find room to exercise his ingenuity in the Öland stone, by trying how to overcome its moist nature and quality ; which whosoever could accomplish would do no small service to his country, and infinitely oblige all the inhabitants of that place.’

Carl Gustav,<sup>3</sup> successor of Christina, loved Öland,

<sup>1</sup> Though fortified, it is not a military fortress, but a dwelling-house.

<sup>2</sup> Oration on the necessity of travel in one's own country.

<sup>3</sup> Charles X.

which at that time was clad with oak forests filled with deer. Before his accession he spent most of his time at Borgholm. At his coronation Öland ale was served.

I have interrupted Linnæus's narrative too long. Let us return to him.

'On May 31 the journey to Öland was equally impossible; the hailstorms were as hard as yesterday.' Celsius, who had here fallen in with the party, and Linnæus occupied themselves with measuring the retrocession of the Baltic, and caused marks to be made on the rocks at Kalmar with that view, as Celsius had caused to be done some five years before at Gefle. The level of the Baltic has considerably changed in historical times. A well that in 1680 was above the surface of the water, in 1731 was  $20\frac{1}{2}$  Swedish inches below it.<sup>1</sup>

They took their host, the druggist, out botanising with them and went to the royal country palace, a quarter

<sup>1</sup> The Swedish journal, *Norrbottnens Kuriren*, Sept. 1885, states that the water is falling rapidly in the Gulf of Bothnia. In proof of this the journal states that a stone in the Archipelago, by the coast, which fifty years ago at lowest tide was barely visible above water, is now at mean tide three feet above it.

'The terraces, the shore-lines, and the sea-marks point to the great rising of the land during the so-called "terrace-epoch," and to long periods of repose.'—DU CHAILLU. This is strongly marked at Kinnekulle.

'It is beyond dispute that the Scandinavian peninsula, at any rate in Sweden, is rising irregularly, but with extreme slowness; that a similar elevation has taken place in geological times is clearly shown by the marine shells, clays, sands, skeletons of whales, terraces, and shore-lines now seen at considerable heights above the present level of the sea, and at a distance inland.'—PROF. THEODOR KJERULF.



of a Swedish mile from the town, set in meadows and fine oak woods.

The wind was just as strong on June 1, but they were wearying in Kalmar, so in the afternoon at three they undertook the rough passage, meeting a heavy storm from the south-west. They were driven a long way to the north of Kalmar, and to the north of Borgholm. It must indeed have been a furious gale thus to be felt under the lee of the mainland.

Hardly had they set foot on the shore of Öland when they remarked that this land was altogether different from the other Swedish provinces. They fell at once to collecting and naming plants; Linnæus gives two long columns of names, chiefly of novelties, right off in high glee, and then catalogues the other natural curiosities. How glad they were to have left Kalmar behind them! They stayed the night at the spot where they landed, and at four in the morning travelled on towards Borgholm Castle, accompanied by the druggist Norstedt from Kalmar. That they went on foot and slowly is evident from the pages of natural-history descriptions that follow. As they went through the embowered woods, with lime and hazel, and the beautiful meadows, the fine and numerous species of orchis reminded Linnæus of Fontainebleau. 'Sweden is not yet adorned by these flowers that are so exactly like flies, helmets, gnats, bees, and other insects.'<sup>1</sup> 'Who imagined these flowers grow in our country and in such plenty in Öland that they are

<sup>1</sup> Oration on travel in one's own country.

to be met with in every field? These excellent flowers grow here profusely, while some of the varieties are but rarely found in Sweden.' Linnæus's botanical catalogue reads like a raving: he enjoyed the expedition like a very boy. He found the small but rare-in-the-whole-world plant *Astragalus campestris minimus* here on the Landborg, to the north of Borgholm. What a prize! Small too, and easily packed. Every now and then the remembrance of his public duties brings him back to analyse the island stone, when a precious new vegetable in its crannies again takes off his attention. The walnut trees which had grown in the gardens, and were very large, had been killed during the late winter. Gooseberries grow wild between the church of Köping and the parsonage house. On the 3rd they had a happy excursion to Borgholm Castle. Linnæus says it was built during the minority of Carl X. (Gustav).<sup>1</sup> He describes it as having a wooden roof in his time. It is roofless now.

From Borgholm the exploring party went to Halltorp, passing several stud farms. At Halltorp they encountered thunderstorms, which gave them time to calm their minds and arrange their collections: but they managed to see the herb gardens—with lavender, balm, rue, and mint, 'as fine as can be seen anywhere.' The

<sup>1</sup> He probably means before Carl Gustav's accession in 1654. Queen Christina had procured his election as her successor in 1649. Between these two dates the castle was probably built. The print by Rhezelius is possibly the architect's elevation of the proposed building.

druggist filled his pockets. The waysides were lovely with the whitethorn flowers. In the evening they went out to hear a sort of bird sing that they call there the Klädror; they found it to be really a nightingale. They rested for the night in Glömminge, further south.

‘They know in Öland by the name of *tock* a shrub which is very rare in the whole world. Botanists had hitherto known only two places where it grows—York in England, and Siberia, where it had been recently discovered. It is called Shrubby potentilla.<sup>1</sup> It is the size of a lavender or hyssop bush; it loses its bark every year. The flowers are yellow. It was known to Ray (Rajus, Linnæus calls him), Morrison, Miller, Walther, and Ammann.’

They went on coasting the low cliff to Resmo in a fever of enjoyment, brimming with discoveries, staying that night at the provost Wellin’s (listening to the nightingale), and the next night at Kastlosa.

‘We went on a track leading to some coal-pits we had heard of, and seeking the inn at Dalby; but the innkeeper, who was to have shown his discovery of them to us, was away in Småland, and his people were suspicious of us. They did, indeed, show us a coal-pit, but it seemed to be an English one. The “boots” showed us a place north-east of the inn, and said that the innkeeper had found a coal-pit there, but up came the master’s daughter behind us and showed us another spot on a hill. She tried all she could to misdirect us

<sup>1</sup> *Potentilla fruticosa*.

and make us lose the track: at length we left it to be made out between the innkeeper and the learned land-inspector.

‘The country is splendidly green hereabout; the houses are thatched with birch-bark and straw. Hence we went to Smedby, and from here to Möckleby, where the alum slate-quarries are. Here I had the mishap to crush my left foot with a great stone falling from a wall, and was compelled to lie up for a while in the inn at Möckleby until able to get on to Ahlbrunneby at Ottenby, in the southern end of the island. Here we found the people pretty considerably alarmed at us, and at our travels, so that we were in a manner obliged to go on to the inn at Näsby. Most of us stayed the night with the comminister at Åhs, where we rested through Sunday.

‘As we left the chaplain’s at Åhs people came following us out of the villages to look upon us as a curiosity. We travelled still southward to the southernmost point of Öland, through the Ottenby woods and zoological gardens. The sea-birds here were various and numerous.’ Linnæus gives a list of their names. He also describes the wild scenery of the springs of Kiärrekusa, near Kiärre, in the extreme south of the island. These fountains made a considerable impression on his memory.

‘The journey now began backwards through the Ottenby district. We followed the eastern coast upwards by Eketorpsborg and its ruins to Gräsgård’s Inn, examining Trebyborg, which lay not far out of our

way to the right. Towards noon we saw Segerstads Church, and slept that night at Hulterstad.

‘Next morning (June 9), we went down to the beach, which was  $\frac{1}{8}$ th of a mile’ [Swedish] ‘from Hulterstad. The dew lay on the grass and the lark trilled deliciously.’ Here they looked up the seaweeds among the pebbles, and reached Sandby at noon.

Linnæus often had the children of the poor Ölanders brought to him for medical advice. Though not caring for medical practice, he was always ready to treat the poor to the best of his ability.

Passing Gärby Church they halted at Norra Möckleby, where they rested the night, after a very warm day, at the pastor’s house, who accompanied them next day to show them all the remarkable objects about. Linnæus always thought clergymen had great opportunities for making discoveries in natural science, and he made a point of opening their eyes to their advantages in this respect.

When it is remembered what important parts Öland and Gothland played during the Iron Age, it merits special attention that the relics from the Stone Age are so rare on these islands. The ship-shape (Noah’s ark shape) monumental stones in Öland are remarkable.<sup>1</sup>

‘There is a fine and very perfect fort of the Vikings at Ismanstorp, in Öland; its circular wall, built of granite boulders and limestone, without mortar, is fifteen feet high and nine feet wide. The diameter of

<sup>1</sup> Du Chaillu.

the fort is 400 feet. The oblong radiating internal structures look more like tombs than anything else.<sup>1</sup>

Not far beyond Rünsten they found, as might be expected from the name, a large runic stone of justice, with three rows of inscription on it; and a little further off, before coming to Lerkakaby, on the left hand, a runic stone broken in two, with two lines of writing.

Byzantine gold coins of the middle of the Iron Age have been found in Öland. The largest and most valuable treasure ever heard of in Sweden, and perhaps in Europe, was found in 1774 near Trosa; its weight was 28 pounds: rings, necklaces, and sword ornaments were the chief objects. A fine gold necklace, weighing nearly two pounds, was found in 1860 at Torslunda<sup>2</sup> near Färjestaden on Öland.<sup>3</sup>

‘At a point by Långelot’s church, whence we could descry Borgholm Castle in the distance, we met with the first chalybeate spring we had found in the island.’

‘From Långelot we travelled to Gärdslösa Church, passing an undecipherable moss-grown runic stone, and others, broken, but in more legible condition.

‘*June 11.*—Pastor Lundwall told us he had heard that people took us for spies and were paying great attention to our journey, which this day took us past Kläppinge, on a promontory of the island, with a chapel built for the service of the fishermen. On the southern side is a stone-built cross as tall as a man on horseback.

<sup>1</sup> Du Chaillu.

<sup>2</sup> Thor’s Grove.

<sup>3</sup> Du Chaillu.



A small island lay not far out at sea. At length we came to Lillholmen, a promontory  $\frac{1}{8}$ th mile' [Swedish] 'long and two gun-shots wide.'

The high-road, which makes a loop all round the coasts of the southern part of the island, is only a single road through the northern narrower half above Borgholm.

'*June 12.*—To-day our journey was quite short, for we heard in Pesnäs to-day (Friday) that the sloop which plies between Gothland and Öland only arrives on Tuesdays.

'Pesnäs church lay in a sandy district; the clergyman's house was better built than others here in Öland, and had a good garden, which Pastor Lorenz Hök<sup>1</sup> had greatly improved. Rye is the grain most grown here; barley does not thrive well, the soil being so sandy. About here is the best corn-land in the island. The roe deer betakes itself mostly to this northern end of Öland; the fallow deer to the southern part. Wild swine are not uncommon in the northern part, doing the farmer considerable damage. Much wood is brought here from Småland. The women busy themselves with stocking-knitting.'

Linnæus remarks upon the large appetites of the Ölanders. Perhaps the islanders were equally surprised at the capacity for food of the six hungry bachelor-travellers. Linnæus, the Benedick of the party, was not a large eater at any time.

<sup>1</sup> Query, a connection of Linnæus?

‘June 13.—We travelled to Gaxa, where the high road on the island ends; here we were to wait for the post-boat to Gothland. Sunday the 14th, the fourth after Trinity, we attended church at Högby, where we saw a great procession going to the altar. First came nine maidens, then three women with little children, followed by three women who had been churched; next came nine couples of other women, and lastly, half-a-dozen peasant lads. The maidens sat towards the north by the altar, the youths towards the south: the women with the children were seated in front of the altar.’ A long description of the ceremonial follows. A model of a ship, a sort of votive offering, such as one often sees in maritime places in France, was hung up in the church; a runic stone lay in the churchyard. Linnæus does not seem to have noticed the saddle-shaped build of the ancient churches, of which Alböke is the best-known example. They are called ‘Klöfsadels.’ Linnæus only mentions Alböke Church in contrast, as being as ill-cared for as the churches in Gothland are handsome and neatly kept.

‘The Öland horses, by which name we in Sweden describe all very small horses, are not common in Öland, being only occasionally seen. Öland horses are truly only swift nags, but they are a good deal larger than the little ponies we call Öland horses. A little pony from the isle of Öland runs with extreme velocity; for though a great trooper’s horse may get before it, the

little animal moves its legs with astonishing rapidity—much quicker than the great horse.’<sup>1</sup>

‘*Monday, June 15.*—This morning we set off at 4 A.M. to go to the island of Blåkulla.<sup>2</sup> The way lay westward half a mile’ [Swedish], ‘through copses of hazel and oak mingled with a few firs. The weather was pleasant, the sky clear. There on the western shore lay the boat in which we were to cross over. The rudder was gone, and all the steering and other gear out of order. As soon as this was somewhat repaired a tempest arose which postponed our trip to Blåkulla till evening, and we took our way to Horns Inn, lying not far from the sea. The storm subsiding a little, we crossed over to Blåkulla (about noon, after all), which island lay like a blue mountain, two miles’ [Swedish] ‘off from the shore, in shape like a half globe or bowl.’<sup>3</sup>

‘Blåkulla is a small island lying between Småland and Öland’s northern promontory. Old-wives’ tales have dedicated it to Pluto, but now it would seem that Neptune has taken it in charge. There is some ground for the fables concerning the difficulty of approaching the island; for if any place in the world appears truly horrible and ghastly it is certainly this island, which I will briefly describe.

‘It is surrounded by a precipitous mountain rampart,

<sup>1</sup> Öland was formerly celebrated for a breed of ponies, now extinct, smaller than those of Shetland.—DU CHAILLU.

<sup>2</sup> Or Jungfrun.

<sup>3</sup> Its appearance at a little distance reminds one much of a dark plum-pudding ill turned out of a basin.

within which grow thickets of oak and birch; then come some higher mountains and small copses, then some still loftier, and beyond these the highest mountains of all. These are all craggy cliffs of red sparry stone overgrown with a pitch-black moss.<sup>1</sup> This clothes the precipices and gives them a black colour, causing Blåkulla to look from the sea (at a distance) quite blue.' [This gives the island its name of 'Blue hill.'] 'The densely foliated woods stand like small enclosures or gardens in the shelves, or undercliffs of the hills, although the stems of many of the oaks are as thick as a man's body. We looked right across the island from its central hill. To the north and south we saw the far sea; eastward, Öland, with several churches and Borgholm Castle; westward, Småland, with several small islets called "Förö." On the north side of the island there was but little wood; at the southern end we found in the cliffs a cavern resembling a room. There were, however, no signs of the island having been inhabited, and we saw no living creatures besides a wild goat, and several black "velvet ducks"<sup>2</sup> flying round the coast. A dead *Cottus quadricornis*, which had lost its horns, lay on the beach; its sharp prong-like spur was still at the back of its head.' As no actual dimensions are given, this reads in the original long description as if it were the carcase of the leviathan itself. The terrible creature is really no bigger than a herring; but science takes little or no account

<sup>1</sup> *Lichen stygius*.

<sup>2</sup> *Anas fusca*.

of size.<sup>1</sup> Its general appearance bears a strong resemblance to the common father-lasher of our own coasts.

‘The sailors told us how a lieutenant in former years had sent a maiden here to keep his flocks in summer. Stormy weather and other hindrances occurring, after some time she had nothing left to eat, and was obliged to live upon grass and raw goat’s flesh, as she could make no fire. In this great distress she remained until a ship-master anchoring here delivered her from Blåkulla.’<sup>2</sup>

Linnæus gives a lengthy list of the rich Flora of the island, including the *Linnæa borealis*.

‘From Blåkulla we returned late in the evening, the wind and high waves hastening our journey. Blåkulla lay between our little vessel and the sun, its precipices looming grandly above the troubled billows. At half-past ten we landed, and proceeded at once to Gaxa, on the other side of the island, to see about our passage across to Gothland.’

As Linnæus does not sail up this western coast of Öland, I will just say what it looked like as I passed by. The whole lowland of the peninsula by Borgholm is clothed in budding oak woods; the castle looks a stately ruin from the sea, sailing northward. A white church peeps out beyond the cape, and then one watches for a long while the long low coastline of Öland. The sight of

<sup>1</sup> *Cottus quadricornis*, four-horned bullhead, a sort of fish ten or twelve inches long.

<sup>2</sup> H. Marryatt, who also relates this tale, with thrilling sensational touches, says the hapless maiden went mad. This probable.

another and another church makes one suppose all the villages are near the shore; the fact is, the island is so narrow at this end that they lie near the seashore on either side. The coastline reddens and rises to the northward, forming a sort of low cliff; then it becomes more broken, but gradually gets lower and lower till it melts off into the horizon, and of land nought is to be seen but an islet with a lighthouse on it, and a blue mountain island that looks huge on the sunset side of the vessel. This is the weird and terrible-looking island of Blåkulla, the very home of legend, rising blue and mountainous in startling contrast to the low yellow coastline of Öland; suggesting not only a distinct geology, but all manner of fantastic terrors. Linnæus thus describes the interior:

‘*June 16.*—Obliged to stay in Gaxa to-day till the wind changed, so that the barque which had arrived from Gothland could sail back. We picked up all sorts of information upon œconomics until the time came to watch the bats and hear the nightingales.

‘*June 17.*—The skipper went aboard early to prepare for the hoped-for change of wind. Meanwhile we rode from Gaxa by Högby to Boda, and so on further up the east coast of Öland. The road lay between diminutive oaks and hazel bushes, with a sprinkling of fir woods. We passed several burying-places on the way. We had the pleasure of visiting the island which forms a breakwater opposite Boda, making a commodious harbour for several vessels. The channel between Boda

and the island is said to be fordable, but it was not so, and our horses began to swim.<sup>1</sup>

‘Crystal apples’<sup>2</sup> I call the bullet-shaped stones, the size of apples, that occasionally occur in chalk-hills. These crystal apples are plentiful here in Öland. I have also found them in Osmundsberge in Dalland. We saw Boda Church lying a mile’ [Swedish] ‘from Gaxa. The minister here told us that the people were very disquieted about our travels, and watched us narrowly, having heard of our journey to Blåkulla. They took us surely for spies. From Boda we took our way due north, wishing to see the northernmost point of Öland. We travelled through an extensive wood, reaching as far as Sjötorp; but the forest was only of small firs covered with cones, and junipers growing no larger than bushes. Sjötorp, a farmstead set in rich black earth, ended our sandy way, at a mile’ [Swedish] ‘from Boda.

‘June 18.—From Sjötorp we journeyed to Grankulla, the next village, lying nearer the coast. The whole region between the village and the sea was covered with sand-hills. The flying sand was driven by a strong southerly wind. *Arundo arenaria* grew over these sand-hills, binding the sand; as the Dutch plant it on their dunes to fasten and fatten the sand. *Carex arenaria* likewise grew here. Thus Nature herself teaches us to make use of this grass to check and

<sup>1</sup> He gives a long list of plants growing on this islet.

<sup>2</sup> *Ætites pomum crystallinum*.



smother the flying sand. Of trees, only firs grow in this district, but lesser plants are here in profusion.

‘*June 19.*—To-day being the fast-day, we remained still and kept it, spending our time on the sand-hills, and ended by going to an inn in Byrum, bargaining with the peasants (for supplies) *until the first wind to Gothland shall translate us.*

‘*June 20.*—We abode still in Horn, awaiting a favourable wind, redeeming the time by seeking the not hitherto correctly described beasts and salads’ [animals and vegetables].

‘*June 21.*—The gale was as heavy as yesterday; therefore we crossed the island and attended service in Högby Church. Towards evening at five the wind lulled, and we rushed off from the inn at Horn, travelling back again by Högby and came by a circuit of a mile’ [Swedish] ‘to our vessel. We set sail that evening at nine o’clock, when a south-west breeze at length carried our barque from this coast.

‘GOTHLAND.

‘*June 22.*—We awoke at daybreak—at two o’clock, that is—and saw before us the Carlsöer Islands. The wind fell, so that our barque could hardly sail. Velvet ducks<sup>1</sup> swam in the mirror-like sea. The sailors beguiled the time by telling us tales of the two great car-buncles which were in St. Clement’s Church at Wisby, and other stories. In the handsome façade of St. Nicholas’

<sup>1</sup> *Anas fusca.*

Church are two rose windows; in the middle of each, says tradition, there once sparkled a brilliant carbuncle. These precious stones were carried off by Waldemar, king of Denmark, when he captured the town and plundered the place, carrying off his booty to Denmark; but the largest of his vessels foundered near the Carlsöer, where it is said still to lie, laden with rich treasures.<sup>1</sup> We cast anchor at 2 P.M. at Wisby, the only town in Gothland, lying in the centre of its western coast. This town looked to us like a model of Rome, so splendid is it, with its many great roofless churches, which time has ruined, and its strong and lofty walls of hewn stone.

‘The town occupies a half-circle on the slope of a steep hill. It is not very large, being enclosed and fortified on the land side with a high wall and many strong towers.’ These walls of Wisby, now standing, enclose 170 acres of ‘townland.’<sup>2</sup> They were built in 1228. The thirty-six towers were erected by the inhabitants of the island, each parish building one. They are sixty or seventy feet high. The walls are loopholed, and two towers guard each gate. ‘The streets are generally uneven, small and narrow, with irregular alleys. The houses are built in German style, some of stone, some of crossbar-work, some of wood. Most of them are roofed with tiles brought from Germany. The inhabitants are pleasant and friendly; they speak Swedish with a somewhat Norwegian accent. The water, which comes from the land side, is clear, and

<sup>1</sup> Bædeker.

<sup>2</sup> *Tunnland*.

runs so overflowing that they are able to make little fish-ponds in their cellars.

‘The gigantic bones near the great church, which are held as a marvel, are in fact whale-bones.’ Alas for legend when science comes by: it is all swept away. The great church of St. Maria, consecrated in 1225, the only church in Wisby where Divine service is now held, was believed to have been built by a virgin giantess, and these bones are her relics.

Let us hear Fergusson. ‘The Island of Gothland deserves to be treated as a little province of itself in an architectural view, inasmuch as it possesses a group of churches within its limits as interesting as any in the north of Europe, and peculiar, if not exceptional, in design. Their existence is owing to the fact that during the eleventh and twelfth centuries a great portion of the Eastern trade, which had previously been carried on through Egypt or Constantinople, was diverted to a Northern line of communications, owing principally to the disturbed state of the East, which preceded, and in fact gave rise to, the Crusades. At this time a very considerable trade passed through Russia, and centred in Novgorod. From that place it passed down the Baltic to Gothland, which was chosen apparently for the security of its island position; and its capital, Wisby, became the great emporium of the West. After two centuries of prosperity, it was gradually superseded by the rise of the Hanseatic towns on the mainland, and a final blow was struck by Waldemar

of Denmark, who took the town by storm in 1361. The cathedral was originally founded in 1100, burnt down in 1175, and rebuilt as we now find it about 1225.' This church is partially Romanesque, and vaulted with pointed arches, and chimney-pipes up in the vaulting—also with black wooden towers of Renaissance outline. The stone lychgate is also of the Renaissance.

Helge Ands<sup>1</sup> Church, Wisby, founded originally in 1046, is a double or two-storeyed church. It has a sort of crypt, above which is the main church. Both storeys are round-arched. The typical example of churches of this two-storeyed class is St. Gereon's, Cologne. St. Nikolaus, the largest church in Wisby, is in the Pointed style, with apsidal end and lancet windows. St. Katarine's Church has also pointed arches.

'The most striking peculiarity of the Gothland churches is the constant appearance of the pointed arch at a date earlier than we find it as a decorative feature in other parts of Europe. It is by no means improbable that, in a city where coins of the Khalifs are constantly found, the pointed arch may have been introduced from the East at an earlier date than the Crusades, which seem to have suggested its employment in France.'<sup>2</sup>

The cathedral service was nearly over. The church was full. Luther's hymn was being sung by the sitting congregation, the men with their hats off. 'Of course,' will be said; but I had been on several previous Sundays

<sup>1</sup> Holy Ghost.

<sup>2</sup> Fergusson.

in Holland, where they keep their hats on. The clergyman wore large full lawn sleeves, and a cope of crimson velvet massively embroidered with a gold cross. The altar also had a cross, and the lamb and flag. As the people were filing out, I noticed they were all well-behaved, and all alike ugly, with a knob at the end of the nose, and with high cheek-bones—a sort of Russian features. They are less usually fair than the Swedes. The clang of unmusical bells helps out the somewhat Russian feeling of the place—so outlandishly ancient, so feudal, so un-Swedish, unless with a dash of Charles XII.—a warlike place, such a contrast to Borgholm, so amusingly picturesque withal, having a muddle of every old-fashioned idea pent up within its walls. One might make fifty illustrations for a book in Wisby alone. How the little Goths enjoy sliding down the stone-shoot by the carefully dovetailed stone steps that lead from the cathedral to the upper streets built on the limestone ledge! Many of the ladies evidently teach in Sunday-schools; I saw ‘klass-bok’ in their hands. We had some trouble to find a church where service was performed, as on approaching some six or seven churches we found them all in ruins, the style Romanesque, or decorated Gothic—rightly here so-called, ranging from the thirteenth century onwards. St. Lars and Drotten,<sup>1</sup> within twenty or thirty yards of each other, are both round-arched. St. Lars has huge towers, which were doubtless built for defence. There are no straight streets; but all dart off

<sup>1</sup> Holy Trinity.

at a tangent upon some picturesque bit : every other step leads to a picture. It is a most amusing and bewildering place to walk in ; one is always being attracted away from one's destination. The people and children behave very nicely, and do not crowd about one as one draws. The windows in Wisby are so filled with fine plants that it makes one continuous flower-show. Some few lower windows, lighting cellars apparently, are cross-barred with iron, fastened together by loose rings. There is a delightful walk by the shore, leading into a kind of private botanical garden, combining also flower and kitchen garden, commanding from its shrubberies and avenues fine views of the varied and picturesque towers and churches. The proprietor seems to leave it perfectly free for the town to enjoy. It leads to a public pleasure-ground containing a pavilion with a sort of *café chantant* or theatre. The town, from its situation on a hill-side by the sea, drains itself by stone-shoot gutters, in which career large, tame, brown rats. It is paved with large pebbles, with a single-file pathway of smooth pavement on one side of the street. One can study the character of lovers as they walk side by side on the single-stone pavement ; sometimes he, sometimes she, gets the pebbles. Linnæus would of course have left the slabs to Elizabeth ; she would have taken them in any case. The streets are overarched in several places, reminding one of Jerusalem. Oxen drawing wains keep up a rattling noise on the rough pavement. We walk outside the walls beyond the chain of towers

sloping upward from the sea, where ten large towers and four lesser turrets all come into one view, the turfy open spaces broken with rocks grown over with red stonecrop; the grass set thick in patches with a small bulb with oniony smell; and brushwood of hawthorn, and sweet-briar as on Öland, and wild gooseberries all set for fruit; the sea, sun, and sky all a symphony in silver grey. The lofty cliffs help to form a landscape very different from that of Öland. They have nice, pleasant, happy Sunday ways of their own, when you are used to them. How sweet their hymn-singing sounds up there in that whitewashed chapel! and how happy they all look in their gardens and on their cliffs and beach! It is all so pious and peaceful. Hungry with sight-seeing and sea air, we went back to the hotel to dine. A stupefying surprise—we can get nothing till eight o'clock! and we had landed at 6 and breakfasted at 8 A.M. Nothing is cooked on Sundays between the hours of four and eight.<sup>1</sup> Down to the beach again to wait. The beach smelt of the sea: most beaches do, but the sea-odour is particularly strong here, and invigorating. There are plenty of crablets and sand-skippers, brown and orange-colour bladder-wracks, and very few shells—just some mussels and tiny yellow snail-shaped shells, a few small bivalves, and some madre-pores. Plants grow profusely among the stones, which contain fossils and madre-pores among the débris of limestone and pebbles of grey and pink granite. It is this rotten limestone, doubtless, that promotes the growth

<sup>1</sup> This is generally the rule in Sweden.



of plants here in Gothland, where many plants thrive which will not grow on the mainland of either Sweden or Russia. The Flora of Gothland is very tempting to the botanist. We mounted the hills of rotten limestone, like crumbling chalk-cliffs, and looked down on the narrow-gauge railway-line, on which two trains a day ply from Wisby to Hemse, a distance of thirty-four English miles, taking nominally three hours about the journey, virtually four or five hours, or so—most usually the ‘or so’ answers to the Scotch ‘bittock,’ almost as long as the journey. The train stops at half a dozen village stations.

We returned to the Stadshotellet at eight sharp, and dined comfortably ; while the military officers, as usual, cruised about among the spread of salted delicacies, appetizers at the sideboard, and drew little glasses of spirits from the triple-spouted urn. They never put drinking-water on the table: they have no notion of it. They give one a noble breakfast; and there, although the natives, and the military, cruise round as usual, and take little nips to wash down the snacks they eat from their fingers before serious feeding, the attendants bring us large jugs of cold milk to drink out of tumblers, and abundant cream to take with the coffee. The prices are very moderate, even for Sweden. It is well to remember that in Gothland no food is served on Sundays or weekdays between the hours of four and eight; and on Sundays even the bakers’ shops are closely shut. The ovens are brought here from Norway, Linnæus says.

‘A tall and great stone cross stands just before the eastern town gate.<sup>1</sup> It is covered with moss-grown letters,’ says Linnæus, to whose diary I now return.

June 24.—‘Being St. John’s Day, we went to church in Wisby. Many of the inhabitants had built bowers (making a kind of feast of tabernacles). Youths and maidens held festival of games.

‘Next day, though we had ordered horses early, we had to wait for them till afternoon. We travelled northward on the west coast, by way of Korpelklint, a high hill in the neighbourhood, about a quarter of a mile’ [Swedish] ‘from the town. The country here is tolerably sloping, often as steep as an attic-roof. Öfwestequarn, a mill in Lummelund parish lying one mile and a half’ [Swedish] ‘from Wisby on a stream of its own, here forms a waterfall so high that it may be reckoned among the most considerable in the kingdom. In Gothland, it is certainly one of the highest. The river also is worthy of notice from its rise in the swamp of Martebo, thence flowing out one mile’ [English] ‘underground, under hill and valley. It emerges at Öfwestequarn, at a small hole about eight ells broad and four ells high.<sup>2</sup> Near Lummelund we found a vegetable, growing very thickly, which has never yet been found in Sweden. *Rams* was the name of this growth, that here grew as underwood; the root was a longish bristly bulb, the

<sup>1</sup> This monolithic cross, nine feet in height, marks the burial-place of the Gothlanders who fell in the battle of July 27, 1361.

<sup>2</sup> The Swedish ell is 2 feet, the fathom 3 ells. The Swedish foot is 12 inches, the Swedish mile 11,700 English yards.

leaves long and fleshy, the stalk quarter of an ell long.<sup>1</sup>

‘ We kept the Martebo Lake on our right ; it is long and narrow, but not deep. They use a peculiar sort of boat upon this lake, needing neither helm nor rudder. Two persons being a full lading for these boats, we secured two of them in order to obtain water-plants.

‘ We rested from the intense heat in Martebo Church till eight o’clock. In the journey hence to Stenkyrka we saw nothing remarkable ; but the horses could hardly keep their footing on the chalk-hills.<sup>2</sup>

‘ *June 27.*—Up at four to read a runic stone by the churchyard ; then we botanised on cliff and coast in the creek or bay of Capell (Capelhamn), studying the corals, here very rich. We came at eight in the evening to Hau, which is indisputably the prettiest farmhouse in the kingdom. It is bordered by the sea and a little brook on two sides ; on the two others by tall and steep chalk-cliffs. A long rhyming inscription was traced on the woodwork of the courtyard. This house has no neighbours within half a mile ’ [Swedish]. ‘ From Hau we passed on next day to Ruka, where there are plenty of plants. An unknown bird shrieked at us with an unusually strong voice.

‘ From Bunga we went (on the 28th) to the Fårö<sup>3</sup> islands. The sound which divides Fårö from Gothland

<sup>1</sup> *Chærophyllum sylvestre*, *Allium ursinum*.

<sup>2</sup> ‘ The islands are almost entirely composed of limestone or coral rocks.’—PULTENEY.

<sup>3</sup> Pronounced Fora.

is about an eighth of a mile' [Swedish] 'broad and a mile long. Sandö, an outlying island, lies five miles' [Swedish] 'from Fårö out at sea, and belongs to the pastorate of Fårö. There are seals and porpoises<sup>1</sup> in plenty. The whale- and salmon-fishery is very conveniently carried on at Fårö, and nowhere with greater profit. The tar which is here extracted is clear and light brown—the true Gothland tar, burnt from clear roots. Some of these roots have lain several centuries in the earth. We came in the evening to Fårö Church, half a mile' [Swedish] 'from the sound, and stayed there the night. We examined the church in the morning. By the altar stood a noteworthy painting representing fifteen men, and near it several rhymes by which one understood that in 1603 these fifteen people went sealing on the ice; the ice got loose and carried them off to Sandö. The names and rhymes are in Danish. Several runic stones lay, as usual, in the churchyard. It was impossible to read them: the *Lichen calcarius* had filled up all the letters. *Arundo arenaria*, the 'helm' of the Dutch, grew on and covered the sand-hills. The northernmost point of Fårö has nothing remarkable besides a level beach, on which the sea has washed outlines of crag-like figures. Our return journey was by the west side, near which are two sand-islets. We rested another night in Fårö Church.

'June 30.—Recrossed Fårö Sound, and examined Bunga Church, one of the handsomest we had seen in

<sup>1</sup> *Delphinus phocaena*.

Gothland.<sup>1</sup> From Bunga we travelled southwards on the east coast, through a forest that was being hewn down by the lime-burners. Tar-kilns were built on the ground. The numerous peat bogs are jestingly called Gothland's gold-mines. Another source of wealth is the eider-down. The feathers lining the nests are grey with white spots. The bird tears the down out of herself when she broods, and covers the eggs with it; it is, however, mixed with moss and brushwood. We travelled in the great heat to Kyllai.

'July 1.—We sought Furilen, an island near Kyllai, early in the morning; and also went to St. Olofsholm, a round elevated island half-encircled by the bay. Walnut trees had been planted on one side of the island, but they had died in this last cold winter. Wall-rue fern<sup>2</sup> clothes the walls of St. Olof's chapel. From here to Slite, where we took up our night-quarters, is one mile and a half' [Swedish]. 'Slite is one of the best harbours in Gothland. We could not visit Carlswärds Schange, a fortress on a small island called after Charles X., because time would not allow us to wait for the strong east wind to change.

'Sjöströmar' [Istromar] 'lies at the outflow of the lake of Bogewick into the sea. The land between the sea and the lake is half a buck shot wide. Four canals are dug across it, over which four canals the high-road

<sup>1</sup> 'There are upwards of one hundred churches in Gothland, mostly of the eleventh and twelfth centuries.'—LAING'S *Sweden*.

<sup>2</sup> *Asplenium Ruta-muraria*.

runs on as many bridges. The small Tialward's Isle lay in our way; it is somewhat lofty—one can see it was once joined to the mainland. It is named from a certain Thielward (Thjelvar) who landed here before the birth of Christ and well-nigh captured Gothland. The spruce-fir forest through which we journeyed hence was pretty considerable, reaching to Gothem's Jöen' [two lakelets in the river]. 'South of the river (which here divides Gothland nearly in half in a line from Wisby) pines were more numerous.

'The priest's house at Gothem seemed, from the thickness of its walls, to have been part of a monastery. The church is fine: the men and women sang hymns antiphonally. In the choir lay a large runic stone with a long inscription. A kind of clay famous for making tobacco-pipes is sent from here to Stockholm.' Linnaeus goes at some length into the mineralogy of this part, but, alas! he had not hit upon a porcelain clay.

'*July* 3.—From Gothem we travelled to Östergarn, riding the whole way through woods of pointed-leaved trees. Thorsburg (196 feet), the only rising ground in this neighbourhood, lay more than  $\frac{1}{8}$  of a mile' [Swedish] 'from Kräklingebo. On the summit of this hill is a small wood. Wild horses are found and caught here. On the road to Östergarn we had the luck to fall in with *Schoenus mariscus*' [growing?] 'on a roof. Roofs made with this grass are very lasting.

Östergarn Church lies on the east coast, nearly in the middle of the island, which between this and Wester-

garn is five miles' [Swedish] 'broad. From the north to the south cape it is fifteen miles' [Swedish] 'long.'<sup>1</sup> The hill by the church is pretty high, and steep on all sides. From this hill on the north-east is a splendid view, extending from the church at the base of the hill, over the woods and cornland broken by hills, the sea bays, and the blue sea as far as St. Olofsholm. It would not be easy in Gothland to find a more agreeable site for a country house.

'Allskog Church lies in a situation where Nature herself has drawn a boundary between the north and south part of the island. Here it is chalk; to the southward it is mostly sand and clay. At Lye Church, a daughter parish of Allskog, we tried to read a runic stone we had heard of. Pastor Neugard, in Östergarn, had caused it to be written anew. This stone is remarkable, as it was inscribed in the time of Queen Margaret, and gives the date 1409. The characters show it to be one of the most recent of these stones. We slept at Garde.

'Towards evening my travelling-companions refreshed themselves with games &c.' Linnæus himself evidently did not do so—he writes too many natural-history descriptions to have spare time to devote to games. Travelling now on the 'star' system, as he did, he was everything; the rest were supers, dummies, —*Largo al factotum*.

<sup>1</sup> Gothland is about seventy English miles long by twenty to thirty-five in breadth.



‘We rested after (the games) in Nahr, and next day made our way by a bypath to Burs. Cockchafers hummed and buzzed round our heads. In the following day’s ride to Råne in Grottingebo we encountered more of the water-nymphs’ (or dragon-flies). He carefully describes the varieties.

‘Grottingebo Church, one mile’ [Swedish] ‘from Råne, is one of the most considerable in the kingdom’ [of Sweden]. ‘A north-east gale prevented our visiting the islands off this coast—Inner- and Ytterholm.

‘The elder-bushes here only ripen their fruit about once in six or seven years: yet the unripe berries make as strong a brandy as those fully ripe.

‘Agantyr’s grave, as some call it, though some dispute it, is a mound or tumulus at the commencement of the promontory, just facing the fine haven of Garnshamn. The island is here very narrow. At and about Fide are many stone walls and large houses, many of them three storeys high. Whether these were formerly castles and strongholds of pirates, or houses for monks or superiors of parishes in Danish times, we cannot tell. It is unlikely that they were mere farmhouses.

‘The beds in which we slept on the east side of the island were all of fine warm and costly eider-down. From Wamlingebo, our night-quarters, we travelled on the storm-torn eastern seaboard, abounding in porpoises, in sight of the small Heligholm (Holy Island), to Hoburg (122 feet), and through Sundre, where we read four runic stones, back to Wamlingebo. The road

to-day was sandy as a beach. From Wamlingebo we followed the shore north-westward by Burswik, a deep fiord-like bight. From here comes the sandstone of which Stockholm Palace is built. The only tree in this neighbourhood is the service tree (*Oxel*). We slept at Botweda in the house of a yeoman, Jöns Winter.

‘We saw no bees here in the country, notwithstanding there are such swarms to be met with in Öland.<sup>1</sup> There is no heather, for which reason the honey would be very white. We were told a late bishop (Esberg) had formerly brought bees over, which, however, were lost by degrees. But such loss need not prejudice their future introduction, for he lived in Wisby, where the bees were exposed to a daily wind, and the swarms had a good opportunity of hiding themselves in so many old churches and towers. We remarked no flax in Gothland. Our night-quarters were in Livoistad (Loyfsta). We noticed in this country a great calmness in people’s aims and objects in life, especially in regard to public business transactions. Newspapers come very seldom, and few persons seem interested in public affairs.

‘Eksta Churchyard contains two runic stones—one before the church door, one towards the east.’ Were these stones placed here anterior to the church, or *vice versâ*? Were the churches built because of the

<sup>1</sup> This is surprising, as the Gothland Flora is so rich. I also saw no bees.

stones, or the stones erected in the public and consecrated ground of the church?

‘We travelled towards the coast in company with the owners of the Stora Carlsö (Great Charles Island). Contrary winds prolonged our voyage to these islands. The Carlsöer, Great and Little, lie hardly a quarter mile’ [Swedish] ‘from each other, and barely half a mile from the land. Both are fairly lofty<sup>1</sup> and they give in the sea something the aspect that Thorsburg and Hoburg have on *terra firma*. Those two hills, when Gothland was submerged, must have resembled these two islands.

‘There are several fishermen’s houses on the west side of Stora Carlsö, and some stone houses; and not far from these a runic stone whose eastern side bore a Latin inscription with an enigmatical date. The western side of the stone was inscribed in Swedish verse. A good-sized stone house lay towards the southern extremity of the isle. We unsuccessfully sought a runic stone to tell us something about its former inhabitants. We found many interesting madrepores and corals. We passed the night in a fisherman’s hut on this island, for no one else dwells on this or on the lesser Carlsö. Sheep feed on the scanty herbage.’

Linnæus was greatly interested in Stora Carlsö; he often mentions it in his books and lectures. He speaks of the ‘stone giants,’ or isolated rocks, 20 to 40 feet

<sup>1</sup> Lilla Karlsö (Little Charles Island), 244 ft., is the highest hill in this region.

in height, formed by the action of water. He also discovered many new plants, and named them—particularly a kind of *saponaria*,<sup>1</sup> which he considers useful in œconomics.

‘We returned from Lilla Carlsö to Klintehamn, thence to Sande. At Mesterby Churchyard (a daughter church of Sande) we found two runic stones; we read one, the other was illegible. We passed some very tall fir trees on our way to Roma Kloster.’<sup>2</sup>

‘We took up our night-quarters again in Wisby, whence we had travelled on June 25. It was now July 17. A sort of marl was pointed out to us by an English seaman, who assured us it was an English species of marl’ [ay, more, the fuller’s earth itself—the very thing that marked out England as the natural home of the woollen trade—better in England than in all Christendom besides. Old Fuller says it was forbidden by law to be transported from England in the 14th century. Here was a precious discovery indeed!]

‘*July 19.*—Attended Divine service in Wisby. The women keep up their custom of wearing black dresses and mittens to go to the Communion even in the heat of summer.

‘While waiting for a vessel to return home by, we looked over the fine library of Bishop George Wallin, pleasantly situated in a garden. A vessel came at

<sup>1</sup> Soapwort.

<sup>2</sup> An old Cistercian convent, rebuilt and used as the residence of the governor of the island. One can reach it by rail from Wisby.

length by which we returned to Öland, meeting with a dangerous storm off the Carlsöer. The sailors climbing the masts could see Öland as well as Gothland. We took in a great sail and soon saw Öland. The storm lulled; we anchored near Boda and praised God who had delivered us from the greatest danger. We travelled to Horn, where we stayed the night.

‘*July 26.*—We were on horseback betimes. Leaving Föra Church to the left, we came to Pesnäs, journeying farther to Ormoga by Alböke—the interesting saddle-roofed church, which looked doubly ill-kept after the fine condition of the Gothland churches—by Kiopinge and Raplinge, noticing the progress of the vegetation. The fields were ripe to harvest now, all yellow, which were green when we passed before.

‘From Odensflisa we went to Isgjärde, staying there the night. Allgudrum’s church we wished to see, and still more the castle itself, which is the most famous and largest in the county; but evening and darkness overtaking us made us hasten our journey to where we first came on June 1. We stayed the night here, and on the morrow (*July 27*) had a calm and favourable passage to Kalmar. Öland faded out of our sight; but its green fields, its shadowy forests, and matchless Tempe vales will remain ever present in my memory.

‘*July 28.*—In Kråkenäs, near Wexio, I rested for two days from the daily work I had already performed for two months.’ Linnæus went on from Wexio to Stenbrohult, where he admires the tall alder trees

round the bight of the Lake Möckeln by Stenbrohult, and talks affectionately of the garden of his childhood that his father had made. On August 10 he describes the Kirmesse ceremonies in Småland, Skåne, and Blekinge, which, he says, appear to have been handed down from the old Goths.

*August 11.*—Some of our company—Messrs. Moræus, Gahn, and Dubois—who left us at Kalmar to travel through Skåne and Blekinge, rejoined us here. They all returned to Wexio, where they made a week's stay, visiting Kronoberg Castle ruins in the Helgasjö Lake; travelling towards Stockholm by way of the iron-mountain of Taberg and Jönköping, inspecting the school at Wisingsö; passing Omberg (in East Gothland), Wadstena, Motala, Medewi, Askersund, Skyllberga, and Örebro, where they took leave of Moræus and Gahn, who went home to the New Kopparberget, near Falun. Then Linnæus travelled swiftly by night and day, passing through Arboga in the night of August 25, Enköping 27th, Upsala 28th.

Early in the morning he left Upsala, and came towards evening to Stockholm, whence he had set out on his journey. Though unsuccessful in its principal object—the finding of a porcelain clay—the result of the Öland and Gothland tour proved quite satisfactory to the States.

## CHAPTER XVII.

## THE DREAM FULFILLED.

‘The new professor rose from his place, amidst the highest university authorities in their official seats; and in that clear manly voice, which so long retained its hold on the memory of those who heard it, began, amidst deep silence, the opening words of his inaugural lecture. Even to an indifferent spectator it must have been striking, amidst the general decay of the professorial system in Oxford, and at the time when the number of hearers rarely exceeded thirty or forty students, to see a chair, in itself the most important in the place—but which, from the infirmities of the late professor, had been practically vacant for nearly twenty years—filled at last by a man whose very look and manner bespoke a genius and energy capable of discharging its duties, as they had never been discharged before, and at that moment commanding an audience unprecedented in the range of academical memory. . . . The whole place seemed to have received an element of freshness and vigour. . . . But to many of his audience there was the yet deeper interest of again listening to that well-known voice and gazing on that well-known face, in the relation of pupils to their teacher.’—STANLEY, *Life of Arnold*.

ON Linnæus’s return from this tour the professorship of Physics and Anatomy at Upsala became vacant by the resignation of Dr. Roberg, who had held it over thirty years. Roberg requested his dismissal, which was granted, with the appendage of his whole salary, as he had exercised his functions over thirty years.<sup>1</sup>

<sup>1</sup> Pulteney.



Count Gyllenborg, the chancellor, a lover of botany, who had been the companion of Rudbeck junior in his travel to Lapland, considered the celebrity of the university of Upsala as inseparable from his own fame. He saw in Linnæus one who could increase this celebrity; so he made himself acquainted with him at Stockholm, and helped him to obtain this professorship.

Although all sorts of shifts and evasions were employed at Upsala to hinder it, and Wallerius inveighed against him in a public dissertation, the professorship was given to Linnæus, who removed with his family to Upsala in September 1741.<sup>1</sup> This appointment was of no advantage to him in a pecuniary sense, as, owing to the full retiring pension drawn by Dr. Roberg, his successor could only receive the salary of an adjunctus. But this was little heeded by Linnæus, whose chief ambition it was to be a professor in Upsala University. On October 17, on the occasion of his being formally admitted to the professorship of Physics, he pronounced a Latin address on the 'Necessity of Travelling in One's Own Country.'<sup>2</sup> Crowds flocked to hear his inaugural address; the theatre was filled. He was remembered from of old as an interesting lecturer, and the very dispute concerning his appointment had roused public curiosity concerning the person vilified by Wallerius. His appearance awakened general enthusiasm, and his address was listened to with breathless attention. It

Diary.

<sup>2</sup> *Oratio de Peregrinationum intra Patriam necessitate.*

was the dawn of a new era in Upsala, this proclamation of science as 'the understanding of things worth knowing.'

The drier philosophers, doubtless, laughed in their sleeves at the wandering Linnæus as Pegasus in harness; but Linnæus did not reckon a fixed position as harness, but as roots. He sought to round himself and fill a sphere, adjusting himself to facts.

As a speaker he was always energetic, instructive, entertaining, and full of illustration; but on this occasion of happy excitement he was more than usually brilliant. Science streamed with electric fluency from his lips. To us, accustomed to telegraphic phrases, and close reasoning in concise language, his discourses seem over-ornate and rococo; but to his hearers, used either to long-winded emptiness or dry solid matter, they beamed with light and interest. It must be borne in mind, too, that we know his writings principally at third or fourth hand, having passed through his own Swedish mind into the Latin, thence into English. Many of his speeches and writings have come to us through the German—the magniloquent German of Stoeber. The Lapland tour, translated directly from the Swedish, is lively enough.

I give a sketch of this discourse in such parts as best unfold his character, or which picture to us the Sweden of his day.

'Anatomy schools,' he says, 'are erected that we may behold in another's body, as it were in a glass,

the nature and constitution of our own; as those conceive more clearly the situation of countries, districts, and cities, and the manners, rites, and customs of their inhabitants, who have themselves been there,' &c.

'Medicinal gardens are cultivated here' [at Upsala] 'where the plants of various kinds are collected from all parts of the globe, that we may by this means behold, as it were, the great in the little world.' We are all grateful for 'the bounteous gifts of nature, with which we have nothing else to do but to observe and convert them to our own use.' Therefore he counsels we should not neglect the storehouses of knowledge in academies, though our study here should be supplemented by travel. 'If I may be allowed to speak what is really fact, this our university may contend with any foreign one whatever for true and solid learning, in all those parts of learning which have been enumerated' [taking these things all together—to wit, library, hospital, anatomy, physic-garden, instruments for experimental philosophy, repository of works of art.]

'At this time' [1741] 'the hospitals at London, both for number and goodness, excel all others; at Paris, the chirurgical operations are the finest; at Leyden, the anatomical preparations; at Oxford, the botanical collections.'

'He who goes abroad raw and ignorant seldom returns more learned. Yet, I speak to you, gentlemen, not of the peculiar advantages of universities, or of sojourning at this rather than any foreign one; but

chiefly of travelling in one's own country, through its fields and roads—a kind of travelling, I confess, hitherto but little used, and which is looked upon as fit only for amusement.<sup>1</sup>

‘We in Sweden attempted for ten years to improve our farming by travelling to England, and by translating English books. But the climates of Sweden and England are different. We therefore have found more advantage in attending to the good things which our own country produces, and we have succeeded so well as not now to want foreign aid. You know the poet says:

The farmer talks of grasses and of grain,  
The sailor tells you stories of the main.

‘Everyone thinks well of what belongs to himself, and everyone has methods peculiar to himself. . . . There is scarcely any considerable province of Sweden which I have not crawled through and examined; not without great fatigue of body and mind. . . . But love of truth and gratitude to the Supreme Being oblige me to confess that no sooner were my travels finished than, as it were, a Lethean oblivion of the dangers and difficulties came upon me; being rewarded by the inestimable advantages which I reaped from those devious pursuits, advantages the more conspicuous that I became daily more and more skilful, and, what I esteem above all other considerations, as it comprehends in one all duties and

<sup>1</sup> To gain most knowledge and apply it most usefully, one should have done a good deal of comparative travelling.

charities to my country and the public, I gained a degree of experience which I hope will be useful to myself and others . . .’ He continues with great complacency.

‘I have as yet beheld no foreign land that abounds more with natural curiosities of all kinds than our own; none which presents so many, such great, such wonderful works of nature: whether we consider the magazine of snow heaped up for so many ages upon our Alps, and amongst these vast tracts of snow green meadows and delicious valleys here and there peeping; or the lofty heads of mountains, the craggy precipices of rocks; or the sun concealed from our eyes for so many months, and hence a thick Cimmerian darkness spread over our hemisphere, or else at another season darting his rays continually along the horizon. . . . To give a few examples. The sagacious searcher after nature will find wherewithal to sharpen and exercise his attention in beholding the top of Mount Swucku, of so immense a height that it reaches above the clouds. The wonderful structure of Mount Torsburg (in Gothland), the horrid precipices of the rock Blåkulla, in an island of that name situated near Öland, which presents by its name, still used among the Suegothic vulgar,<sup>1</sup> no less than by its dismal aspect, an idea of the stupidity and superstition of that ancient people.’

‘Besides the wonderful vaults and caverns of the

<sup>1</sup> Linnæus does not give this old vulgar name; the island is now generally called Jungfrun—the Maiden’s Isle.

Skiula Mountains, the high plains of the island Carolina,<sup>1</sup> the unusual form and structure of the Kierker-sian fountains in Öland,' &c.

'Consider also the marble-like strength of ice. And yet in this inclement climate grain of all sorts is observed to spring forth sooner, grow quicker' [through the longer sunlight], 'and ripen in less time than in any other part of the world.'<sup>2</sup> In few places is there found a more varied and abundant flora. Lapland alone furnishes me with a hundred rare plants'—the pleasures of the peaceful chase.

'Whoever desires to contemplate the stupendous metamorphoses of sea and land will scarcely find anywhere a more convenient opportunity than in the south and east parts of Gothland; where the rock-giants, as they are called, seem to threaten heaven; and where the epochæ of time, the years, the ages, if I may so say, are as it were carved out in a surprising series upon the seashore, and the ground above the shore.' We must remember that this was said before our modern geological discoveries and researches made reading the great cosmic clock of the universe on the face of rocks and cliffs a current and habitual idea.

'There is scarcely a place where there are so many different kinds of food as here.' The superficial tra-

<sup>1</sup> *Stora Carlsö*.

<sup>2</sup> Barley grown at Purkyaur in Lapland 1731, sown May 31, ripe July 28—fifty-eight days. Rye sown May 31, ripe and cut August 5—sixty-six days.—*Flora Lapponica*.

veller does not perceive this; it seems as if the bill of fare in Scandinavia were limited to fish and eggs, cream and cheese. I admit there are many varieties of cheese.

‘Scurvy,’ he says, ‘is very common in Sweden; but the Laplanders, who eat no salted food, are entirely free from scurvy. Consequently,’ he goes on, ‘nowhere will the dietetic philosopher have more opportunity of making his experiments, as each province has its own ways of dieting itself. Why is the Norlander infected with the scurvy, while the Laplander is free from it? Yet the Laplander is subject to the terrible gripes—called by them *ullem*. Why do almost all the males of Orsobrea (Orsa?) die of consumption before the age of thirty? Why is the Gothlander chiefly afflicted with the hypochondriacal colic? Why so many epileptics in Verns? <sup>1</sup> One could scarcely travel a day in any of our provinces without learning something of use in oeconomy.’

Linnæus travelled in the character of a wide observer; taking, as Bacon did, the whole realm of knowledge for his province. The patriarchs of learning, looming through the mist of distance, always appear great men—as they are—and gigantic in their views; we moderns are subdivided into specialists, dealing with minute parts, as is necessarily the case when we have attained the point requiring high finish. The composition and general breadth of effect being well laid, the

<sup>1</sup> Elsewhere he considers, reasonably enough, the Upsal remittent fever to be due to the stagnant canals and waters.



rest only needs skilful manipulation. Linnæus's master mind held firm grip of the whole of science in its manageable youth ; now sub-division has become necessary.

The orator concludes : ' I thank God who has so directed my footsteps, that I have grown up, notwithstanding poverty and other inconveniences, in simplicity and innocence of life, and in the most ardent pursuit after knowledge.' In the empire of natural history there is room for the exercise of lofty virtues, and deeds and sufferings fit for the pages of romance.

Even more than his oration was admired Linnæus's calm and dignified abstinence from all subjects of previous dispute and personal topics which would arouse acrimony ; the ' frankness and cordiality with which he met the welcome of former friends and pupils, the anxiety to return the courtesies with which he was received by old and young.'

The description of all this much resembles a modern analogous case : ' It was a grand display. I never before recognised what oratory could do, the audience being kept for three hours in a state of electric tension, bursting every moment into applause. Nothing was said which seemed of moment when read deliberately afterwards ; but the voice was like enchantment, and the street when we left the building was ringing with a prolongation of the cheers.'<sup>1</sup>

His and Rosen's appointments ' militated,' Stoevers says, ' against the call and will of the Muses.' Rosen

<sup>1</sup> Froude, *On Gladstone's Great Oration on Homer*.

held the botanical chair, Linnæus that of anatomy and physics.

There is a magic in the memory of schoolboy friendships, says Disraeli—ay, and in the recollection of college enmities; the twilighted memory is a veil of forgiveness. Linnæus did not know half the integrity and worth there was in Rosen, and Rosen took all the warmth that was in Linnæus for pepper. Now he found out Rosen as a good kind of fellow; the other discovered Linnæus was ‘a plaguy pleasant one too.’

Linnæus and Rosen were each put in the chairs the other desired the most and was best fitted for; so, with a frankness which did honour to both, they proposed an exchange of their professorships, which was amicably effected early in 1742, with the consent of the chancellor. The two professors, by their united zeal and abilities, failed not to exalt, together with their own fame, that of the university. Linnæus had longed for a place at Upsala, but above all for the chair of botany. ‘He was eager to teach his favourite science in the halls he had entered with boyish awe.’ Now at the comparatively early age of thirty-four his hope was a dream come true.<sup>1</sup> ‘The age of thirty-four was his year of perfect enjoyment—calm, settled, happy with wife and child, he had now his garden to create, his mind to expand, and further to enlarge his mind by constant communication with the wide new world.’ At full maturity while yet in youth, he rejoiced in the dedication of his ‘powers

<sup>1</sup> Smith.

at their ripest to the beloved work, making genius a reason for work.'

At Upsala Linnæus had charge of the botanical garden, materia medica, and the teaching of dietetics, hygiene, and natural history is general. 'He now gave up the general practice of medicine, attending medically, on his establishment at Upsala, only his friends and the poor; but he ever paid great attention to that noble and intricate science'; and, though with his inventive genius he was too theoretical and hypothetical, he has thrown many hints and gleams of light in the path of succeeding physicians. He concentrated his intelligence on natural science. During the rest of his life his head-quarters were at Upsala. The botanical garden at Upsala had degenerated into a mere tract of pasture-ground. Linnæus created it anew and 'raised a temple to Flora.'<sup>1</sup> His head gardener was one of the first in Europe—Derrick Neitzel, a German, who had been employed by Clifford at Hartecamp. The two worked valiantly, and succeeded in forming another Hartecamp in Sweden. Again they had the gratification of seeing the *Amaryllis formosissima*, the gem of Hartecamp, in bloom; it flowered for the first time in Sweden, in April 1742.

In 1742 Linnæus had 2,000 plants in his garden, of which this amaryllis was the queen. Six years after the re-establishment of the garden, in 1748, he published its description. The exotic plants then numbered 1,100. The plants indigenous to Sweden and Norway made a

<sup>1</sup> Stoever.

wonderful collection, with which Linnæus furnished the botanical garden.<sup>1</sup> Linnæus sent, in 1742, at his own expense, a student—A. R. Martin—to collect plants for him in Norway, by way of trial, before sending him next year to Lapland.

Though he missed the pleasures of art, it would be an error to say Linnæus felt no ecstasy in contemplating beauty. Nature supplied him with the most perfect lines and forms and tints, in infinite variety.

This new-found beauty was not in flowers alone. The birds of paradise, the exquisite humming-birds, the genus *Trochilus* of Linnæus, graceful as flowers, radiant as gems, 'the hue of roses steeped in liquid fire,' were still unknown to the multitude. The riches of the earth were now being brought to light. No wonder for a time Art sank into oblivion; it seemed to die under this new sunburst of natural beauty. Painting failed to express these marvels; poetry exhausted itself in imagery, and sank beneath the weight of its own epithets.

Linnæus was also occupied in studying the artificial formation of the most beautiful of natural objects, the concentrated beauty of the globe in microcosm.

It was about this period that Linnæus made a re-

<sup>1</sup> When Linnæus was appointed professor of botany the garden at Upsala did not contain above fifty exotic plants. His catalogue *Hortus Upsaliensis* shows he had introduced 1,100 species, exclusive of all the Swedish plants and varieties, which in ordinary gardens amount not infrequently to one-third of the whole number. The preface contains a curious history of the climate at Upsala and the progress of the seasons throughout the whole year.—*Encycl. Brit.*, eighth edition.

markable discovery relating to the formation of pearls in the river Pearl Mussel <sup>1</sup>—not to be confounded with mother-o'-pearl.<sup>2</sup> The former is found in rivers, in all the northern parts of the world—Sweden, Ireland, England, Scotland. From observations on the growth of the shell of this animal, and the number of its laminae, or scales, fifty or sixty years are thought to be a moderate computation of its duration of life. Linnæus discovered a method of putting these mussels into a state of producing pearls at his pleasure, though the final effect did not take place for several years. He says that in five or six years the pearl would have acquired the size of a vetch.<sup>3</sup> Most likely this was effected by injuring the shell externally, perhaps by a perforation; for it has been observed that these concretions in shells are found in the inside exactly opposite to perforations and injuries made by serpulæ and other animals.

On May 21, 1743, Professor Roberg died, when Linnæus obtained the whole salary of his office, having up to this time enjoyed nothing but his pension.<sup>4</sup>

The Swedish Government honoured Linnæus highly, and built him a house at the entrance of the botanical garden, of which beautiful premises (the house and private garden) he took possession on July 18, 1743. This raises the question, Is this the plain small house at the corner of the Svartbäcksgatan, No. 27, which tradition and a slab in the wall point out as the residence of

<sup>1</sup> *Mya margaritifera*.    <sup>2</sup> Seashell.    <sup>3</sup> Pulteney.    <sup>4</sup> Stoever.

Linnæus at Upsala? or is this where he dwelt while the house that they call 'beautiful' was in building?

The low narrow windows of this small house could not have held many plants. These windows have been modernised, but one sees the original shallow brick arches still. The house has not been otherwise much altered since the time when Linnæus lived here.

The botanical garden of Upsala was again reconstructed in 1787, when the Government gave up the pleasure-garden behind the castle to be used as a botanical garden. Chevalier Thunberg, who succeeded Linnæus as professor, wrote to Stoeber in 1791, 'The ancient academical garden was situated in a very low ground, and the dwelling of the professor and other buildings stood on a marshy soil. For this reason I entreated the king to grant the garden of the palace to the academy of Upsala, and to have it converted into a botanical garden, which was done accordingly. The buildings for the preservation of the plants, the orangerie, the hot-house and the lecture-room—in which the statue of Linné will be put—the museum, the professor's house, are mostly finished, and will be quite complete in a few years hence. The old botanical garden is still in being, but the buildings, especially the orangerie, are almost a heap of ruins.'

This letter seems to prove that the present botanical garden at Upsala had little or nothing to do with Linnæus, much as he may have admired or coveted its greatly superior site. Yet Professor Fries, who now

holds the botanical chair at Upsala, says that there was a botanical garden upon the hill in Linnæus's time. Thus, he may have had the direction of the castle garden up there. This would reconcile all differences of statement.

There is a nice residence, a long low stone house, at the entrance of the present botanical garden on the hill, where Professor Fries now lives, and which is the official residence of the botanical professor, not far from the fine Linnæan lecture-hall, built in the style of a classical temple, opening with large bronze doors at the head of a flight of steps. The marble sitting statue of Linnæus, by Byström, holds the place of honour.

The small enclosure by the house in the lower town, called Linné's house, on the other side of the river, which is here rendered almost stagnant by a series of locks and weirs, is part of the Linneanska Trädgården, Linnæus's botanical garden, which the guide-book says may conveniently be visited on the way to Gamla (old) Upsala. Truly it will not take long to inspect these grounds, for the private garden is merely a small oblong pleasure ground behind the house, with a grass-plot surrounded by a double row of cut lime trees. Though this garden would have had a very different aspect in Linnæus's time, it is too small to have ever been a regular botanical garden. If this was really Linnæus's official and not his private residence, the former botanical garden must have extended over much of that



low ground by the river which is now mapped out, but not yet built, as the new suburb of Upsala.

Professor E. Fries says of the old Linnæan garden in which Linnæus made his observations, 'The aspect of this garden, with its small and unpretending green-houses, is, upon the whole, very well preserved; but the inner arrangements have been changed by the removal of the hedges, the transforming of the flowerbeds into grass-plots, and the filling up of the ponds. As the old garden was situated in a low and swampy tract, the new one has been formed in a higher locality to the south of the town. But the old garden still retains its historical interest; trees are there shown, planted by the hand of Linnæus. At present it is let out as a place of meeting for the students of the East Gothland nation.'

Sir J. E. Smith says, in 1742 Linnæus undertook the reform of the Upsala garden: a new greenhouse was erected; an old house of stone, built by the great Olaus Rudbeck, who, having suffered so much by fire, would not admit a bit of wood into the structure, 'was converted,' as Linnæus says, 'from an owl's nest into a lodging fit for the professor.'

In 1743 the garden, with its long low range of architectural greenhouses, was in a state to receive the copious supplies of exotics which Linnæus, in consequence of his extensive foreign correspondence, was enabled to procure. He was this year chosen member of the academy at Montpellier. He became secretary

of the Upsal Academy, and was employed on some public occasions to do the honours of the university.

Linnæus's garden was enriched by presents from all parts of the globe. 'Formerly,' he writes in a letter to Haller, 'I had plants but no money, and now, of what use is money without plants?' This is part of a long letter written July 18, 1743—the very day of his installation in his new house. Rosen called to congratulate him, and they talked of Haller, for the letter ends somewhat queerly, or as if an Irishman held the pen—'Whilst I am writing, my colleague Dr. Rosen, physician to the king, comes and tells me of your death having taken place in April last. I hesitate in the greatest anxiety and consternation whether or not to send my letter. If death had deprived me of a parent, or wife, or only son, I could hardly feel more! If the news be true, I know not how I could escape seeing it in the public papers. I hope for better things!'

Haller's letter to Linnæus, dated Göttingen, August 25, 1743, begins, 'I am still living, my excellent Linnæus, and as much attached to you by esteem and affection as ever.'

Now Linnæus had to set to work not only collecting plants, but collecting, or rather creating, a botanical library. Books and pictures are perhaps the nearest approach to creation of anything that man can do.

'In 1744 Linnæus improved botany very much, and worked on the necessary books, without which the professorship would not have been of so much use as it

ought to be. He also laid out the garden agreeably to his system, and at a promotion held at that time he delivered his oration ‘*De Telluris Habitabilis Incremento.*’<sup>1</sup>

Since his installation as professor he had seemed to perceive truths with more perfect clearness, and to settle them in his own mind as he demonstrated them to his pupils, stating the case with pellucid art. Had he, then, grown? or has the mind, as Carlyle asserts, its cycles and seasons like nature, varying from the fermentation of *werden* to the clearness of *seyn*? When H.R.H. Prince Adolf Friedrich inspected the university, and the professors were presented to him by the chancellor, Count Gyllenborg, Professor Andreas Celsius (son of Dean Olaus Celsius) and Carl Linnæus were denominated ‘*Lumina Academica,*’ on account of their knowledge, which was celebrated within as well as without the kingdom; and the same year, when the rector and four of the professors, of whom Linnæus was one, waited on her Royal Highness to congratulate her on the birth of a prince, Linnæus was the only one who was ordered to proceed to Ekholmsund, and he there had an audience of her Royal Highness.

This was Louisa Ulrique, sister of Frederick (not yet the Great) of Prussia. She had lately married the heir of Sweden, ‘Adolf Friedrich, a Holstein-Gottorp prince, come of royal kin, and cousin to Karl XII. He is Bishop of Lübeck, or of Eutin, so styled (a title of courtesy), now in his thirty-third year (1744).’<sup>2</sup> Living

<sup>1</sup> Diary.

<sup>2</sup> Carlyle.

oftenest in Hamburg, snatched (as Carlyle says of his cousin, heir of Russia), poor boy, out of Holstein-Gottorp, which is a narrow sphere, into Sweden, which is wide enough. He 'married Ulrique, July 17, 1744, with a grandeur and splendour unspeakable,' says Bielefeld, chanting the upholsteries of life. 'She was beautiful as Love, in a riding-habit of rose-colour trimmed with silver, the little vest turned up with green-blue (*céladon*), and collar of the same; a little bonnet, English fashion, of black velvet, with a plume; her hair floating, and tied with a rose-coloured riband.' What a gay dress! To us she would have looked like the *prima donna* at a circus.

Linnæus dedicated his 'Öland and Gothland Journey,' published in 1745, to Prince Adolf Friedrich. Most authorities say this book was published in the year following the journey; but the title-page, which gives 1745 as the date, does not say it is a second edition.<sup>1</sup>

Linnæus mentions<sup>2</sup> May 29, 1744, the death of Andreas Celsius, 'our secretary,' saying it is a great loss to the Swedish Royal Society. On October 12, 1744, Linnæus was appointed secretary of the Royal Society of Science at Upsala, in the room of the late professor of astronomy, Andreas Celsius, and on November 24 he was chosen Inspector Nationis Smolandicæ, also in the place of Professor Andreas Celsius.<sup>3</sup>

<sup>1</sup> *Oländska och Gothländska Resa*. Stockholm and Upsala, 1745. 8vo. I cannot reconcile this date with Carlyle's as above. Both are positive.

<sup>2</sup> Diary.

<sup>3</sup> Celsius junior was one of Linnæus's two especial personal

In 1745 Linnæus established in the greenhouse (?) at Upsala a museum of national history, with the many rare animals given by the chancellor, Count Gyllenborg, and also the large collection which H.R.H. Prince Adolf Friedrich was pleased to present.<sup>1</sup>

‘This summer Linnæus went to Falun to take possession of his wife’s inheritance from her father, who died at the end of last year.’<sup>2</sup> This claim the Moræus family, and particularly his wife’s mother, appears to have disallowed, and he seems to have gained little by the event, except the old medical library of Dr. Moræus, which still makes part of his own.

In 1745 Linnæus published the first edition of his ‘*Flora Suecica*’; and in 1746 his ‘*Fauna Suecica*,’ at which he had laboured for fifteen years,<sup>3</sup> came out. These books were printed together. ‘These works are models for such compositions, especially the second editions, published many years afterwards, with specific names and many valuable additions.’<sup>4</sup>

‘War keeps the Muses silent’ [in France], writes Bernard de Jussieu to Linnæus, May 1745, while looking out for his book on the Baltic Corals.

It was different in Sweden. Now was Linnæus’s time of greatest literary fecundity, immortalising his studies and making them of profit to the age. The bubbling enthusiasm of fermenting youth had settled

friends. The other was Filenius, professor of divinity (1740) at Åbo, and afterwards Bishop of Linköping. A brilliant triad.

<sup>1</sup> Diary.

<sup>2</sup> Ibid.

<sup>3</sup> Ibid.

<sup>4</sup> Smith.

down into the generous wine of riper years. He showed himself throughout Europe to be no wild theorist, but, as Kingsley calls him, 'a sound-headed man,' fit to be the founder of that new thing that was just being seen in the world—a living science. He seemed to be at the summit of human happiness—married where he was in love; his restlessness quelled by having seen the world, and being fitted with the work he loved.

It is pleasant to see Linnæus in a happy home, with little children about him—for he had a baby daughter now, called Elizabeth Christina, shortened as Lisa Stina—to know him honoured by his prince and those of high station, leading knowledge onward by his pupils; enjoying congenial intercourse outside, and finding all orderly within; coming home to write and read of an evening after teacupfuls of tea, 'drinking in ecstasy'—as painter Haydon says, 'Nothing like tea to studious men. Nectar is nothing to it.' It is a pity that our poor hard-worked London men are obliged to substitute for this fragrant meal, the acme of peace and comfort, a strongly mixed dinner, fussy and fummy, alike burdensome to head and digestion. At best it is but a ceremonious form of supper, while tea is refreshment, chat, and slippers all in one.

An almost invisible shade was falling on this happy scene. Linnæus began to feel the decay of overtaxed powers as early as 1741 or 42. 'I still recollect,' says Fabricius, 'having seen him once very much embarrassed when, after writing a letter to Moræus, his father-

in-law, at Falun, he found it almost impossible to recollect his name.' His best and finest work was done long after this, in goodly quantity, but the shadow always hung over him; unseen, it was there, like the hidden rift within the lute. He needed another open-air holiday—if his tours can be called holidays.



## CHAPTER XVIII.

## WÄSTGOTA RESA—ROUND THE VENERN LAKE.

The giant element  
 From rock to rock leaps with delirious bound,  
 Crushing the cliffs which, downward worn and rent  
 With his fierce footsteps, yield in chasms a fearful vent  
 To the broad column which rolls on, and shows  
 More like the fountain of an infant sea  
 Torn from the womb of mountains by the throes  
 Of a new world, than only thus to be  
 Parent of rivers, which flow gushingly,  
 With many windings through the vale:—Look back!  
 Lo! where it comes like an eternity,  
 As if to sweep down all things in its track,  
 Charming the eye with dread—a matchless cataract.

*Childe Harold.*

‘In the beginning of 1746, both their Royal Highnesses Adolf Frideric<sup>1</sup> and Louisa Ulrica visited the university, and gave the professors gold medals. Though all the other professors received but one, Linnæus received two, as a mark of peculiar favour,’<sup>2</sup> and also because their Royal Highnesses best loved his peculiar science.

Linnæus may be said to have set the fashion of natural history in Sweden. This proves his great

<sup>1</sup> Always so spelt in Linnæus’s books, title-pages, &c.

<sup>2</sup> Diary.

personal charms of speech and manner, for no fashion becomes a rage unless set off by the charms of those who initiate it.<sup>1</sup> 'Immediately after the distribution of medals Linnæus undertook the Wästgota Resa, or tour in West Gothland, which had been commanded by the states.' He kept a minute and valuable diary of his tour, which extended from June 12 to August 11. This, being written in Swedish, has never been published in England. None of Linnæus's biographers give even an outline of it. In the following abstract, in which I have been aided by a German translation of the diary,<sup>2</sup> it will be interesting, especially to those who know Sweden and can trace the changes that have taken place since Linnæus wrote, to compare the difference between now and then, and trace the progress, or otherwise, of nearly three half-centuries. The most important portions of the diary, the scientific objects of the journey, I omit, as not being within the scope of this book; these things, being embodied in Linnæus's technical works, are already at the command of the scientific reader. While summarising the great man's views, I add my own superficial observations on the aspect of the country.

A salvo of adieux, with waving of handkerchiefs, arose

<sup>1</sup> 'The Museum of the Royal Academy of Upsala was augmented by a considerable donation from the king, whilst hereditary prince, in 1746; by another from Count Gyllenborg the year before; and by a third from Mr. Gryll (Grill), an opulent citizen of Stockholm.'—*Encycl. Brit.*, eighth edition.

<sup>2</sup> Made by D. Schreber in 1764.

as Professor Linnæus left his house in the Svartbäcksgatan on Thursday, June 12, 1746, taking the good Enköping road, in a direct line from his own house. He set out on horseback, for he meant to ride to Westerås and get on his ground as speedily as he could, leaving the further manner of his route for circumstances to determine. He proposed to travel great part of his way on foot, for, 'as every naturalist knows, one's power of observation is comparatively limited on horseback. When the eye is carried forward by an external agency, and its motion is not altogether regulated by the will, many minute objects are too imperfectly seen to convey a definite image, and, however often one may dismount, many slight suggestions that would be tested on foot are allowed to pass without verification.'<sup>1</sup> On foot one is one's own master and has one's eyes at command. Even nowadays, with trains and steamers convenient, or presumed to be so, cross-country travelling is always tedious and difficult in Sweden; for, once off the main lines of rail or boat, one gets involved in a meshwork of junctions that do not fit and boats that do not run; where the chances are that the very thing one most reckoned upon as a motive power is *stäng*—that is, shut up immovably. One hundred and fifty years ago the rate of travelling must have been incalculably slow, except in winter, when, land and water being all one white marble crust of ice and snow, the lakes and rivers presented

<sup>1</sup> Hooker and Ball's *Travels in Morocco*.

no barrier to travel in any direction, and the land offered a smooth surface in every quarter save the actual forest.

All the Svartbäcksgatan and the houses of the 'Smålandic nation' turned out to bid good-bye to the professor—the adieu that sounds like I O U, and the 'good-day' that sounds like 'Good dog, good dog'—the white-capped students wishing that they too could make the trip; the babies kissing their little fat hands; the old crones, as one so generally sees them in Sweden, with faces set in the lines of kindliness; only the wife and mother looking anxious; and even she was not very anxious this time—for was not her Carl an experienced traveller? and this was a holiday jaunt.

The street was thronged, just as the railway-stations are now, when the very train is full of friends come to see each other off<sup>1</sup>—two-thirds friends to one-third passengers; so that those who have saved the train by only twenty minutes fancy there is no room left for them, their wraps, and the personalities necessary on long Swedish railway journeys. However, the guard's approach to nip the tickets removes two-thirds of the crowd, and, as the remaining third alights at the next station, one has the carriage to oneself all the rest of the way. It would be unfair to calculate the railway dividends by appearances.

Linnæus just names the places he passed through—

<sup>1</sup> Not as in Spain, artfully to fill the carriages to secure more space for their own friends.

the inn at Säfwä, Lislēna, and Enköping—on his first day's ride of twenty-five English miles, and gives their distances apart in Swedish reckoning. He had already analysed and recorded the natural history of this part of the country; the pretty scenery and market gardens of Enköping were familiar to him. His notion of fine sights was founded on such splendid objects as an orange-tipped butterfly pitched on a dandelion, which he would pull up his horse to look at—at least, so the students' chaff went. He put up for the night at Niquarn, on the border of Westmanland, and set off for Westerås with early morning. He does not stay to describe Westerås; but we who are not in such a hurry to get on may as well have a look round it. When I was here, at the same time of year as Linnæus, the lake was like ink—the ink of the country, which is never black, but green or purple in a fortuitous way, like hair-dye; the gardens as one went up the hill to the town were foaming with white apple-blossom and plum.<sup>1</sup> The Persian lilac was only in bud. The river here runs over a weir like those at Upsala. From a bridge, at another point, one gains a curious view, over the dyked river, of rows of wooden houses built on a rude stone embankment, with wooden forecourts, or a sort of galleries; a beam swinging by most of the houses hoists a copper bucket from the rather ill-flavoured stream into the gallery. Above these houses peeps the tall cathedral spire, which from here looks

<sup>1</sup> White apple-blossom is more common than pink in Scandinavia.

like a chimney; or, as it is covered with shiny balls, it reminds one still more of a colossal telegraph-post. A neatly-paved street of stone houses leads to the cathedral; this road lies parallel to the street of wooden houses, whose fronts abut on the river, and the backs are in an unsavoury lane. A single-flowered yellow acacia, growing abundantly, is out in flower here (though not yet out at Upsala), and horse-chestnut is just blossoming above great meadow-like beds of poets' narcissus. The Celsius thermometer stands at twenty-three or twenty-five degrees in the shaded shop windows; but the thermometer in the close shop gives no idea of the coldness of the air out of doors.

Fergusson considers the red-brick decorated Gothic cathedral hardly worthy of mention. He is always hard upon Scandinavian architecture. Was he disgusted at reaping so small a harvest for his book from so long a journey, or does he know it from pictures only? Did the daringly ugly metal spire distress him so much, that he could not give a glance at the west front, whose ornaments belong to a very early condition of the building, which was founded in the eleventh century, and re-consecrated in 1271? The curious old bas-reliefs inserted in the masonry near the ancient western door are sculptured with figures of St. David and our Lady of the Rosary, protectress of the Wästra-rose.<sup>1</sup> The whole

<sup>1</sup> The Western Rose. The name Vesterås is really a contraction of Vestra Aros, western mouth of the Mälar. Upsala is called the Ostra Aros.

west front shows a long and changeful history. The church is built on an ancient foundation of granite blocks, after the manner of most Swedish buildings, from a wooden outhouse to Lund Cathedral. All the eaves and roofs are sheathed in copper, and every buttress is roofed with the same, in sheets which project and give the same amount of shadow that a coping-stone would afford. The outer pinnacles are chimneys—necessary in this climate. The interior is of white stone, and peculiar in its low vaulting and its deeply groined roof, from which hang massy candelabra. The first shock of novelty over, this copper-sheathed church, with its old Romanesque tower, grows upon one, for all the Renaissance barbarism of its copper-sheathed spire. Linnæus must have looked at it, for this conspicuous object was just then newly erected. This tall steeple, 310 feet high, and the loftiest in Sweden, is a valuable landmark in the intricate navigation of some branches of the Mälar Lake. It is visible right across to the Thorshälla River. The two church towers can stare at each other, for Thorshälla's is the loftiest scaled spire in Sweden.<sup>1</sup>

The gardens now in June are full of fruit blossom. Cowslips are still plentiful. It is like early May in England. The windows are full of handsome florists' plants in bloom; cacti, Japan lilies, &c. Westerås is one of the few places in Sweden where vegetables for the market are grown in quantity enough to be talked

<sup>1</sup> H. Marryatt.



about. Its cucumbers are famous as far as Stockholm. It has another still more important market. A custom that otherwise only exists in the opera of Marta still survives in Westmanland. The annual Pigmarknad (girl market—*Piga* is Swedish for ‘girl’) is held for three successive Sundays in July in the square at Westerås; the servant girls, holding their certificate books, stand in rows to be hired out by the month or year. The custom of employing female servants almost exclusively is said to date from the time of Charles XII., when his wars took away the male population.<sup>1</sup>

They talk of Hjö, on Lake Vettern, as being the calmest, most soothing place in the world—a perfect asylum for overworked brains. It would be curious to see anything more peaceful than Westerås on a Sunday. Luckily there are few carriages, for the noise of two at once over the pebble pavement would be distracting. Riding down the hill by the plain square white barn-like castle which replaces the favourite palace of Queen Christina, Linnæus took the high-road to Kolbäck and Köping (only this and nothing more—simply a *köping*, a borough), arriving at Arboga in Nerike on June 14. He skims swiftly over this part of his journey, only noting in his diary that *Linnæa borealis* grows at Fällingsbro, just mentioning Glantshammer by name, and stating that he rested from his long fatiguing ride at Örebro on Sunday, June 15.

He rode into the town, one of the most ancient in

<sup>1</sup> Du Chaillu.

Sweden, at 4 P.M. He was hungry : now for dinner ! He spies the door of an inn. It was shut, being Sunday. He rode round by the back-yard and put up his horse. The inn is *stäng* (shut, extinct) till seven ; now it is four. No dinner is to be had. Linnæus knew the customs of his country too well to grumble as we poor foreign wretches do who arrive at or depart hungry from *stäng* places in Sweden—especially on Sundays, when the bakers' shops are shut too. Many inns are *stäng* daily from four to seven or eight. Though he missed the rhubarb stewed with tapioca and served with whipped cream of his own home, he was an old traveller and could do without delicacies. He sought and found a milk-shop, and quaffed a bowl of milk accompanied by a basketful of rusks, and went out to see the town and go to church. He had not been in the church many minutes when 'Se stanga, se stanga' sounded in his ears, and, sure enough, they were locking the church up : so that too was *stäng*. The elegant town-hall of Örebro, with its pointed-arched façade, did not then exist, but the grand old castle situated on an island in the river—this strong square slott (castle) with four round towers above the bridge—was then, as at any time since 1500, the glory of the town. The church bells began to ring again at 5.30.

On to Mosås, on the 16th, by the Mosjö Lake and through the great dreary forests of Tifwedem and Sandheide to the lake and village of Bodarne. He entered West Gothland on June 17. Here his real diary begins.

The whole should be published in English ; it is well worth it. His sketches, too, and outline scraps are most graphic.

Beyond Broten and Hofwa, where the high-road is better for a bit, he crosses the Gotha River—that is, the Gotha Kanal, which was not then a canal, though it was in course of construction. After finding strawberries ripe and cheap at Skarpa, he enters Mariestad, where the Tidan flows into the great Venern Lake.

‘The Crown Princess Louisa Ulrica yesterday paid her first visit to this town. The town and country people flocked to see so excellent a princess. Her beauty, wisdom, and grace were of all seen, loved, and honoured.’ They were full of talk of it as Linnæus passed ; Mariestad, unused to bask in the smiles of royalty, could think of nothing else.

He slept at Björsäter, on the border of the Venern, riding, on June 19, by the manor of Ornäs, still on the shore of the Venern, to Forshem at the foot of the Kinnekulle, one of the most interesting hills in Sweden, its geology being the point of greatest importance to Linnæus and to the states, its charming scenery making it attractive to the traveller. Dog-violets and bluebells made a second heaven of the ground beneath the yews.

He rode on to Hellekis, likewise on the coast, and walked up from here to Lukastorp, situated near the highest point. He rambled about the hill-region between Medelplana, Kullatorp, and Österplana, and

by the Brattefors Waterfall, which our guide-books know nothing about, all through June 20 and 21, making a catalogue of plants, including truffles,<sup>1</sup> and drawing up a careful report from his survey of the geology and mineralogy, which I condense from my own observations, giving the guide-book measurements.<sup>2</sup>

The Kinnekulle, in size about twelve English miles by five, occupies an isolated position on the east of the Venern. The hill surface is varied with forests and broken by cliffs, ravines, and valleys, with an unusually fertile soil and rich pasturages; beautified in the Swedish spring (that is, in June) with the abundant blossom of wild cherry and apple trees. The hill profile gives the aspect of ranges of terraces, like an Assyrian palace mound magnified. The farms and hamlets on the hill have each their own particular climate and vegetation according to their zone, each terrace marking a different geological formation.

‘The rocks consist of granite (gneiss?), sandstone, alum slate (red and grey), limestone, clay slate, and, lastly, trap at the top, which has forced its way in a liquid condition through all the strata beneath it.’ The uppermost stratum (Silurian in central Sweden) is eruptive trap.<sup>3</sup>

This range of hills contains extensive quarries and ‘numerous grottoes, of which the finest is the Mörkeklef, in which is a clear spring.’<sup>4</sup> Högkullen, 771 feet

<sup>1</sup> *Lycoperdon*.

<sup>3</sup> Du Chaillu.

<sup>2</sup> Bædeker's *Sweden and Norway*.

<sup>4</sup> Bædeker.

above Lake Venern, 916 feet above the sea-level, the highest point, commands an extensive view. Husaby Kyrka, with its royal tombs and gabled exterior, on the hill-side towards Lidköping, is the oldest cathedral church in Sweden, dating from the dawn of Christianity in Scandinavia. Dragons are sculptured on the font, and the elaborately wrought-iron doors are interlaced with runic knots.

Rain and the Sunday service hindered Linnæus's journey on June 22 till about noon. He stopped at the Källang Inn, and next day went on to Lidköping, which takes its name from the Lida River, in which its spired church is reflected. This church is of no great interest, which is a disappointment to readers of Fergusson, who ranks it as next in importance to Upsala, and dates it 1260-1500.<sup>1</sup>

'The town of Lidköping<sup>2</sup> lies on the south-eastern shore of the Venern Lake, in a level and sandy situation, and is divided in two parts by the Lida River, that here falls into the Venern. To the east of the river lies the old town, which is small and irregular. The new town, built by Count Magnus de la Gardie, lying on the west bank, has regular streets, with many cross-roads and open spaces (small commons), that the origin of the fires—so prevalent in the wooden towns of Sweden—may be the easier seen and extinguished. The houses here

<sup>1</sup> This is a printer's error, repeated several times. The church described is Linköping.

<sup>2</sup> Linnæus's Journal.

are all stone-built and mostly faced with boards (for the sake of warmth). The market in the new town is the most considerable in the whole kingdom.'

Thus it was in Linnæus's time—busy Lidköping, with its cobweb of telephones binding its houses and wharfs, its old and new towns together. It seems as if all the life of these Scandinavian towns were concentrated in the telephone-offices.

'In 1736 a spring burst out on the north-east side of the market, taking its course by the south side and running into the lake. This spring was over two Swedish inches broad, and ran under a great tree in the market which it so loosened that it fell. Many believed that an earthquake caused the flow of this spring.<sup>1</sup> The Lida River has lately grown much wider than formerly. The Venern is not each year the same height. The wind blows the shore-sand deeply into the town. This sand is of light quartz with black grains intermixed.' They fence off the encroachments of the sand now with reeds and willows; still one's chief impression is one of grit. Shun of all things a windy day at Lidköping.

On the long breakwater leading to the lighthouse the young men of the place amuse themselves by fishing in the 'melancholy Venern'; neither they nor the sport

<sup>1</sup> There is no record that the Lisbon earthquake nineteen years later (1755) caused a fresh flow of this spring, though the Mjösen Lake in Norway at that time rose suddenly twenty feet and fell back again almost instantly to its level.

appear particularly lively. Theatricals are sometimes held in the ball-room of the largest hotel.

Linnæus here met with a local traditional ballad concerning a great fallen oak, which he quotes at full length; and he goes into raptures over the fine castle of Lindholm, built by Count Bengt Oxenstierna, its gardens and its plantations, mentioning particularly how the great walnut trees stood the hard winter of 1740 (six years previous), being sheltered by the castle on the north side.<sup>1</sup>

The bath in the garden, says he, is a masterpiece, the finest in Sweden, built on the model of the Roman baths, with frigidarium, calidarium, and tepidarium, and having white and black marble floors; the walls of the calidarium glistening with quartz and shining pyrites, mother-o'-pearl and spiral-formed shells. Nothing is known of this fine castle of Lindholm now.

Lidköping was *en fête* with fireworks, illuminations, and green boughs for St. John's Eve. Linnæus says the Swedish summer is in its highest beauty 'when the fresh shoots of the fir illuminate the woods.' The fir-trees are decked for midsummer with the long white buds which country people call the candles. On St. John's Day Linnæus listened to a learned preacher in Lidköping Church; of which he only says it is of stone and well cleaned (swept and dusted—and I fear me

<sup>1</sup> Walnuts bud and blossom too late in the year to be of profit in Sweden. They were not in leaf when I passed here in the middle of June. The climate of Sweden seems to have grown harder since Linnæus's day, from various plants he mentions as thriving.



whitewashed; it was the ruthless taste of those times). The organ decoration, he says, is fine—which seems to speak less for the music; but Linnæus did not care for any music excepting that of birds. Midsummer Day is still very popular for weddings; the newly-married couples go about all wreathed and garlanded: one often meets a gay bridal party. From here Linnæus worked eastward to Skara, where he admires the old Zoological Garden to the south-east of the town, and ‘the fine church, great and high,’ which the passing traveller by train views only as a pretty twin-spired church with deeply-buttressed square towers. Skara is a place that has seen better days; it was once a famous episcopal town, and this is its cathedral, consecrated in 1151; and before that Skara was the centre of heathendom in Götaland, just as Upsala was in Svealand. The cathedral is, with the exception of the miniature cathedral of Husaby, the oldest in Sweden. It was restored in a mixed style, to make it as nearly like Upsala as possible, when Upsala set the fashion to Swedish builders. There are two square Romanesque towers at the west end, and two sharply-pointed spires at the chancel end. The interior is unspoiled by restoration. Going still eastward, making for the Billingen Range, Linnæus passed Brunsbo (June 26th), Skärf, and Hojentorp, where he found tobacco successfully grown, and panish and English sheep kept, and a shepherds’ school—that is, a school for shepherds to learn their business. We have no such institution; our notion of

shepherding being to take the long crook and haul the sheep along by the legs when we want them to come. The water in the small Hojentorp Lake is so sharp that it turns linen washed in it yellow, and makes it so tender that it falls to pieces. It is therefore not fit to wash sheep in. Linnæus catalogues the sheep-grasses : he also describes the Chinese pigs kept here, and investigates the swine diseases. He tells the result of various experiments he made, and catalogues the plants he found, noticing his favourite *Andromeda* growing in the marshes. All this ground he seems to have ranged on foot, knowing full well the truth of what a modern explorer says, 'A man can usually travel over rough mountain tracks as fast as a mule ; but if the man be a botanist, and the track lies among new and rare plants, it is quite certain he will not do so.'<sup>1</sup>

'We travelled,' says Linnæus—this may be the editorial 'we,' though he seems to have found companions,—'towards the Kirchdorfe Berg, took the north side of the Billingen Range, and the east side hence to Sköfde, where are to be found the curious passage graves, called *giants' houses* by the common people.' This province of Westgothland is richest in relics of the Stone Age.

The first part of this journey was through land quite other than one is used to see in Sweden—cultivated levels with no boulders, but with garden flowers in abundance, narcissus, tulips, and lilacs in bud. The masses of lilacs when nearly in full bloom in the most

<sup>1</sup> Sir J. Hooker.

sheltered nooks, are beautiful as seen against a background of the dark-eared waving rye; but beyond Axevalla Heath, the Swedish Aldershot, standing on the bleak moorland to the north, the high ground between the Venern and the Vettern, the scenery again alters to an aspect like that of the Scottish moors—as one looks across the thrift-bordered lake, the Hornborgasjö, purple like the ink of the country, over high ranges of domed hills, and broad reaches of distance of ocean-like blueness. The small two-storeyed village churches are scattered far apart, indicating a sparse population, and Sköfde, an old town with 2,600 inhabitants, lies nestled at the foot of the Billingen Range. From lofty Billingen one can look right across the pretty Orlen Lake, and see the whole long coastline of the Vettern. It is breezy up here; the birches are blown about like feathers in a Brighton bonnet.

It is a pity Linnæus did not explore a little farther north of Sköfde, as far as Karlsborg on the Vettern, which was not Karlsborg then, but merely a landing-place to a nameless hamlet by the lake. How he would have revelled in the feast of wild flowers in these woods, that stretch for miles beside the sandy roads! An English botanist cannot go ten yards without meeting some plant entirely new to him. Of course to a Swede this would be different, but then he would see deeper; Linnæus's keen sight and experience would find countless treasures.

Besides the dog-violet and the rest of the ten plants

dedicated to our Lady in Sweden, the ground here is carpeted with a rhododendron with small white flowers and ferruginous leaves (a white alpine rose) intermingled with the pink *Andromeda*, resembling a delicate wild *kalmia*; the wintergreen, a small fragile white starry flower, the plant three to four inches high;<sup>1</sup> cranberries, and bilberries with their waxen blossoms; a miniature lily-of-the-valley with heart-shaped leaves;<sup>2</sup> a nameless low growth, hardly a shrub, with green catkins in bunches; a strawberry flowered buttercup;<sup>3</sup> an unnamed lychnis, on a tall grass-like viscid stem; and various others I found, all in one turn of the head. Wild strawberries, raspberries, whortleberries, and other fruit plants were plentiful, and some of them nearly ripe. This Karlsborg is a charming place, situated at the entrance of Bottensjö, an arm of the Vettern, that runs deep into the land, dividing the two great Swedish lakes, and commanded by the hill of the Vaberg, rising 580 feet above the Vettern.

Karlsborg, the largest fortress in Sweden, and the only fortress in the interior, intended as a base for the defence of the country, was founded in 1820 by Karl XIV. (Bernadotte). The approach to the fort is by a granite gateway with a pointed arch—an elegant example of military architecture. He was a monarch of taste who built it; but scarcely, one would think, a monarch of sense. One sees no reason for building a

<sup>1</sup> *Tricentalis europæa*.

<sup>2</sup> *Maianthemum bifolium*.

▪ *Callianthemum*.

fortress here: there is no town to protect, no invading army wants to come to gather wild flowers, and if it did there are plenty for all. An old barge or so, run aground on the rocks, is really all that can cause the garrison to tremble. A sentry marches up and down, in biting cold, through the winter too, to guard a fort which no one dreams of threatening. Even in June, the temperature was five (Celsius) in the night, and eight, in sunshine, at ten o'clock A.M. The ground here lies so high that the wind is searching. Between the two great lakes, the basin reservoirs of the great waterfalls, is the highest part of the Gotha Canal, which is better defended by dredging and repairs than by all the soldiery at Karlsborg.

The chief employment for the military is to practise lively brass music while marching up and down: this is very pleasant to listen to while walking in the horse-chestnut avenue within the ramparts.

The high grass rampart surrounding Karlsborg, commands a fine view of the Vettern and the delightful woods that girdle the fortress in most unmilitary fashion.

They have replaced the wooden hotel (which was burnt down) within the fortress by a fine new stone hotel, where you can get cold lamb for lunch sometimes, and at any time of year what all will agree with them in calling cold 'hen.' 'Shikken, you call him,' says a visitor, rubbing up his English. The game in question tastes suspiciously like a large sort of the genus

Tetrao; it is respectably tough, and very meaty on the back, contrary to the usual structure of foreign fowls.

Linnæus left out the then unchristened Karlsborg, and pushed on from Sköfde towards Falköping, by way of Ramstad, where he notices the cornflower gives a blue, and the mustard<sup>1</sup> a yellow, colour to the barley-fields, the corn is so thin. The views are very fine about here. From Torbiörnstorp he explores the terraces<sup>2</sup> of the Mösseberg, which rises 820 feet high, west of Falköping. He notes a kind of lily-of-the-valley,<sup>3</sup> and the auricula<sup>4</sup> &c. The rock-rose,<sup>5</sup> that is elsewhere so common in Sweden, he had not seen in this tour until he came here. He spent a rainy Sunday (June 29) in Falköping, a very small town.<sup>6</sup> Next day he travelled to Olleberg, which, like the Mösseberg, resembles the Kinnekulle in formation, with trap rock at the summit. The growth of grass is fine here as at Kinnekulle and Billingen, but always finest on the north side. He discovered two waterfalls on the east side of the Mösseberg, where there is now a hydropathic establishment. He passed by Odenskull to Kleswa, lying at the foot of the forest of this name. The houses hereabout are mostly built of oak. July 2 (the Visitation of B.V. Mary) he says they went from Åsen to Ällestad. It rained the whole day. Mr. Rudberg, the burgomaster of

<sup>1</sup> *Sinapis arvensis*.    <sup>2</sup> *Strata-terræ*.    <sup>3</sup> *Convallaria verticillata*.

<sup>4</sup> *Primula farinosa*.

<sup>5</sup> *Cistus Helianthemum*.

<sup>6</sup> The scene of Margaret de Waldemar's victory over King Albert of Sweden in 1389, in consequence of which the three Scandinavian kingdoms were united by the treaty of Kalmar.

Falköping, and Legz Magnus Tengemark, who had travelled with him three days, took their leave.

He had a rather dismal day's travelling in the wet, without his admiring and talkative companions, across the dreary moors clothed with sphagnum moss known as the 'famine lands.' Can nothing be done for these wastes? thinks Linnæus, journeying along, with divers projects, which have each to be dismissed in turn as impracticable. The cosmopolitan modern mind declines to entertain the subject, preferring to destroy the forests in North America. Yet it would be fine work to rescue the Svältor from their stigma. Science has not yet achieved its highest end—that of turning bad land into good. It shrinks from 'this task of turning a savage immensity into arability, utility, and readiness for becoming human.'

On July 3 he is cheered up a bit: he had an excellent cup of tea—*Kopp Thee*, as the Swedes call it—almost the first word of the language the Englishman understands. Dried green tea-flowers<sup>1</sup> had been brought from China to give the tea a good flavour. Linnæus analysed the flowers, and enjoyed a chat with a Mr. Blackwell, an English writer on oeconomics. He went on to Flabärg, where the ground rises to 740 feet above the sea-level. He went slowly over this part of the road, partly because it was difficult travelling, and partly because he was considering and examining it so carefully. He did not arrive at Borgstena till

<sup>1</sup> *Thea viridis*, Linn.



after twelve at night, tired, and with no flower-flavoured green tea to welcome him.

Next day (July 4) he walked twelve miles of hilly road to Borås, remarking two noteworthy floating birch trees in the Nossesjön, a small lake from which the Lida takes its rise, flowing towards the great river-absorbing Venern. He describes the trees and their swimming roots at length, as likewise the little rushy plant with entangled roots,<sup>1</sup> which is the basis of all the most remarkable floating islands.

‘Borås,’ he says, ‘is a medium-sized but very clean town, in a dry situation, and very healthy.’ He attributes the health to the dryness; we should ascribe it as much to the cleanliness. The houses were then all built of wood, except the church and the town-hall. He stayed there till the afternoon of the 5th, saw the dye-works, and reported fully upon them. (Borås has now 4,000 inhabitants and several cotton-mills.) There is a small apothecary’s shop, but big enough, he says, considering the needs of the inhabitants. Better still: ‘there is a chalybeate spring about an English mile west of the town,’ of which he gives an analysis. He says, ‘There is little arable land; flax, butter, and eatables are very dear here.’

He travelled by Sandhult (still the main-road), westward to Alingsås, sleeping at Heare; crossing on July 6 a fertile district, which he names the Westgoth-

<sup>1</sup> *Scirpus Cæspitosus*. The *Schæmus mariscus* is likewise a great factor in these islands.

land Alps, and of which he says the earth's riches lie all on the surface—there is no mineral kingdom.

‘Alingsås is a place that formerly, until the year 1723, enjoyed the privileges of a town. It is divided in four districts, each district partitioned in four squares, each built round a common fountain in the centre.’ Here he found a collection of curious animals, including some close-shorn Oriental goats. Four-horned Gothland goats roamed about here.

On July 7 he examined the manufactories of Alingsås—wool-sorting and combing, spinning and weaving; also stocking-weaving, damask-, satin-, and silk-weaving and preparation; also gold-beating. He inspected the metal-works and the dyeing materials of woods, insects, drugs, gums, &c., and the mineral dyes and raw materials imported from abroad; the pipe-factory and the tobacco-factory and plantation, which is, he says, pretty considerable at Alingsås.

Is the deprivation of borough privileges the reason why Alingsås is now less flourishing than it apparently was in Linnæus's day? He speaks enthusiastically of Alingsås, which now has only half the population of Borås. Perhaps Gothenburg drains it off from Alingsås. Next day Linnæus made an analysis of the chalybeate springs and mineral waters of Norrby. Hence he journeyed beside Lake Mjörn and the Safvea, by Ingared, towards Gothenburg. Night and very thick darkness overtook him on the way to Lerum, only lighted by the glow-worms. He reached Gothenburg on July 9.

In this journey he found the aspect of the country greatly changed. The sea-wind drives the vegetation inland. He calls Gothenburg the most beautiful town in the whole kingdom, and rather smaller than Upsala. It would astonish him to see it now, with its 77,000 inhabitants, while Upsala has not 16,000. It is seated on the Gothic Elbe (Gotha Elf), this northern Hamburg, the most European city of Sweden. Then it had only the appearance of a small Dutch town, having been built by the Dutch settlers in 1621. He admires its quays, gardens, and natural-history collections, especially the fauna, headed by a fine eland.

A director of the East India Company here gave him a bird-of-paradise, and other people gave him many other natural curiosities—insects, corals, nautilus shells, crystals, and treasures from foreign parts—which he names at full length, and which he packed carefully and sent home. People seem to have paid him much attention; he says, ‘the learned Bishop Wallin gave himself the trouble to come and learn’ of him. He devoted the next two days to describing the natural history of the neighbourhood. He gives a long list of plants, including the thrift,<sup>1</sup> growing in part of the dried morass by the outfall on the battery island of Billingen, which is not covered by the feeble tides of the Kattegat. The sea-thrift strangely interests naturalists. Linnæus always notices it, and Kingsley is also anxious about it. He calls it ‘one of those things

<sup>1</sup> *Statice armeria*, or *Armeria maritima*.

which, slight in itself, sets one hunting in a new direction, and makes possible a rich discovery.' He asks, 'Is *Armeria* more likely to be a glacial form, an Atlantic form, or one belonging to an old Pleiocene temperate flora?' and he tries to find out if it grows near lead-mines.

Linnaeus next analysed the springs, and prescribed for the maladies of the whole country side. The poor country folks claimed and gained his attention, and he visited the hospital, then containing seventy-eight patients.

'The state of the revenue should (also) be considered as the index of the condition of the poor people,' says Disraeli.<sup>1</sup> Well, Gothenburg is well-off and prosperous, and its people look happy: one sees little of that waste, or refuse, in the shape of a dangerous class, of our hasty and imperfect processes of civilisation. The people are as polite as if the dancing-master were abroad; and yet, strange to say, at Gothenburg it seems as if Carlyle's desideratum, a 'Society for the Diffusion of Common Honesty,' had been at work and growing here for centuries.

The Gothenburghers have 'had the *nous* to enlarge the sphere and means of trade, open new sources of traffic and supply, develop resources, and—what is of more value perhaps than all—beget motion.'

The glory of Gothenburg, to my mind—and it partly explains the secret of these successes—is that the virtue

<sup>1</sup> *Endymion*.

of the people has made practicable an amended liquor law; that the Government can forego the profit, and the people the lust, of intemperance. There are few public-houses scattered about the country in Sweden, few even in the towns, and Gothenburg is remarkably exempt from them. The village inn is less an ale-house than an hotel; one can get ale; but they expect one rather to ask for a jug of milk. Yet truth compels me to mention that in Gothenburg I saw the only case of drunkenness I met with in Sweden. Blessed truth also permits me to add that it was at ten o'clock in the evening of St. John's Day, the summer day of merry-making. Should we in a great English seaport meet only one drunken person late in the evening of a bank holiday? <sup>1</sup> Take Portsmouth, for instance, which has nearly the same population—72,000.

Truth is not a party question. 'You have no business with consequences: you are to tell the truth,' says Dr. Johnson; and there it is, according to my light.

This blessed habit of truth-telling makes travelling, and all life, so easy in Sweden. It is the cheapest policy too. The habitual truth and honesty of the Swedes and Norwegians enables them to do without the costly apparatus of repression of fraud, the law-courts and their official team, and its subdivision for the repression of violence, called police. 'An increased

<sup>1</sup> At Malmö on their Whit Monday bank-holiday I saw no one tipsy, and yet I was out looking about me all day at the manners and customs of the people, and even, took a steamboat excursion.

police is a mere ruinous driving inward of the disease.' Sweden has those blessings of good government and internal peace—a moderate poor-rate and small police force; blessings mainly due to the virtue of her people. The Swede controverts our idea that to be polite is necessarily to be slippery.

From Gothenburg Linnæus took a tour, by way of Färgestad, round the Bohuslaner Skär, or skirt, the island fringe of the land, formerly a part of Norway; the seat of the fisheries, anchovy and cod (*Klipfisk*), herrings, lobsters, and oysters. This wild and peculiar region is called Bohuslän, from the large ruined castle of Bohus, a strong fortress as late as Linnæus's time, where he examined the stalactites, lichens, &c. Its principal tower is called 'Fars Hat,' the father's hat. The inhabitants of these parts are fishermen, descendants of the ancient vikings<sup>1</sup> of whose history traces are still numerous visible at Tanum, near Greblerstad, Brastad near Lysekil, &c.; whose travels and discoveries ranged from Constantinople to Iceland, Greenland, and Vinland (America) five hundred years before Columbus was born.

Linnæus stopped at Kongelf, or Konghall, a small town at the foot of the hill by the castle of Bohus. The curate here had rhubarb in his garden—it is curious to think how late in the day rhubarb became common in England, seeing that in Sweden, even in this out-of-the-way place, they cultivated it one hundred

<sup>1</sup> Inhabitants of *vikar* or creeks.

years before we took kindly to it. In the same garden he found *Crataegus aria*, the tree that Boerhaave had so prized in Holland. Linnæus had never before seen this tree in a Swedish garden; he here says he still less suspected that it was an inhabitant of Sweden. Unless this was one of the exotics of the garden at Stenbrohult, and he excepts that collection, it is difficult to reconcile this statement with the anecdote of his first meeting with Boerhaave.

He proceeded on his travels. That night, July 15, he found it necessary, he says, to stay at Kyfkil's Inn in Gullby, the last village in this region that could burn its own wood. He adds quaintly, 'Here comes the land to an end; here one must take boat.'

One must take boat, sure enough. This belt of low rocky islets between us and the outer sea creates a labyrinth of channels, threading their mesh round countless islets, all barren, and most of them uninhabited, with just here and there a red-painted hut, and here and there a lighthouse or a landmark, or now-a-days a bathing-machine like a sentry-box. Though the sea is rough outside, and the fuller tides of the Skaggerack are felt, here, inside the reef of islets it is calm sailing, as in a river; but the navigation must be a life's work to learn. Some of these islands are formed of a fine green granite, which takes a high polish and is very handsome; but they are generally of a buff-coloured, smooth, and slippery rock, grey with lichen above high-water mark, and touched at the tips



with the golden yellow lichen that is the visible sign of purest air. Directly we lose the protecting belt of islands we feel the strong movement of the North Sea—

While the south-west wind roars in the gloaming,  
Like an ocean of seething champagne.

Sweden, with its ice-polished rocks, is an iron land, in which only an iron people could have settled. As Kingsley says of New England, ‘the people must have been heroes to make what they have of it.’ One feels this all the more in seeing the flint weapons of Westgothland, Tjörn, and Bohuslän.

Everything, except the population, is multitudinous in Sweden. Where other places have a grove of fir trees, here are miles, whole provinces, of forests; where other lands boast of one lake, here are hundreds; and for islands, we here have archipelagoes in the gross; the gnats move in battalions, instead of the one solitary trumpet that dismays your midnight hours in other countries. Linnæus says there is wonderfully much of natural history here—sea and seaweed, fish and zoophytes, and an amazing multitude of curious treasures in this amphibious ground. He describes these things at length in a list. Of Marstrand, the most famed and popular Swedish watering-place, though their name is legion too, he says it is a smallish town, with no more sickness here than elsewhere—which speaks well for the rest of Sweden.

Marstrand is a gay place now, and a fashionable

one, for Sweden. It is pretty on the crowded quay, where the people, residents and visitors, throng to watch the steamers come in, to see the black silk headkerchiefs once more (one misses this grace in Norway), and pleasant to get the rye-biscuit again, though this liking is a matter of individual opinion. A village bride and bridegroom, and a very pretty bridesmaid, all adorned with lilacs and garlands of lily-of-the-valley, came on board the steamer I was leaving by (at the same time of year as Linnæus travelled here), and formed a centre of attraction.

We steamed out, in the soft yellow sunset, beyond the red-painted wooden hamlets, struggling for a foundation on the slippery rock slopes; the legs of the houses—for most of them are built like tables—half in and half out of the water. Marstrand is fortified—somewhat unnecessarily, as the rugged labyrinthine coast is defence enough in itself; no foreign pilot would dare approach it. Its mounted cannon are only used for salutes. We seem to sail out into a wilderness of rock and sea; but no, here is another isolated village, and yet another and another, all of red houses with tile roofs, many of them built actually out on the smooth rocks, or just poised on heaps of stones rudely piled. A windmill yonder gives a sign of something to eat; otherwise, between the villages, it would seem a marine desert. The sea-birds are but few considering their opportunities: are the Swedish fowl too honest to steal the fish spread on the rocks to dry? Small red houses of

fishermen are scattered promiscuously about the rocks ; and there are actually a few poor wretched cows in a grassy patch in a cove—a patch looking about the size and texture of a door-mat ; there is a patch of colza, near a cottage on the opposite island shore. A small boulder, or else a pile of stones, is perched on the highest tips of all the rocks, and the natives have exercised their invention in making landmarks of all shapes and colours—whitewashed, red-painted, tarred black, or striped, or dotted. This coast is fairly well peopled ; for, after all, it is easier to live near the sea where they can get about by boat, than inland where it is a stony roadless waste. Yonder is another fishing village, out seawards, and another landward, a little further off. ‘I never see such a proper sight of rocks in my life ; it’s enough to starve a rabbit.’

The rocks afford a fine study of lichens and stone-crop. By-and-by another village peeps out behind a corner, with a church and a mill, and red houses, on piled stone legs, built right out into the sea among the boats, an amphibious village, and so on, still sailing through a maze of islands. This is a journey of many hours, a whole long Swedish day. Though the nights are short repose is necessary. ‘D—— all shenery, I say ; where’s my boat ?’ says Mr. Slick. Linnæus mentions Blåkulla, a high mountain and landmark for sailors, with shepherds’ (?) huts on the heights, its highest point towards the east. I could not recognise this island, nor find the name on any map, while, as for shepherds——!

The most important place in this region after Marstrand is Lysekil, another watering-place at the end of a long peninsula; far away beyond another archipelago of islets, ranged beltwise on each side, the fawn-coloured rocks varied by hues of pink, red, and shades of grey, and patches of turf alternating with small white beaches; the grey sky, and sea like frosted silver, and nests of little red-painted, shingle-roofed hamlets, mingled with more genteel, white-painted, tile-roofed houses, chalet-shaped and ornamental. One wonders how they get supplies. The islands are more scattered here; or rather, our way winds through the outer edge of the archipelago; the inshore line is formed of moderately high grey hills. Lysekil is a pleasant little watering-place, to my mind preferable to Marstrand. It is vastly proud of its bathing-establishment, which has every modern requirement for dipping and swimming, and a fine music-room—lo!—with an Erard grand piano (how did it get here?), a balcony for the orchestra, and a good floor for dancing. The straggling village, or town, has picturesque points of view here and there; but its grand quality is its fine air. It would be hard to beat that anywhere. Consul Mollén did good to Lysekil by asking the king, when told to request a favour in return for his majesty's entertainment, to have it made a *köping*; not quite a town, it seems, but with certain town privileges. There is another bathing-village in the rocky belt opposite; but it is not so gay as Lysekil, which is most festive with its chalets and flags.

The short turf on the smooth glacier-worn rocks is tufted with thrift; but florists' flowers, and even trees, grow well in sheltered places; and a few fruits, such as small gooseberries, likewise the yellow ribes in the gardens, and black pansies on the tombs of the Molléns, working benefactors of Lysekil.

Away to the wilder parts again, where life is harder; where the rocks, in lieu of flowers, are covered with the Klipfisk, cod split open and spread there to dry; where the harvest preparations and the ingathering are all of a briny sort; where tan-sailed boats are the only vehicles.

Above them hovered the tern, and the seagull swept past  
them on silvery pinions.

But for the long sea-trip to get at it this coast would become the marine playground of Europe. Linnæus was captivated by the natural history of this coast—possessed by quite a childish delight. It was hard to leave it all and sail up the fiord to Uddevalla, turning his back unwillingly, soon after quitting Marstrand, upon the vast creation still moving unrevealed and undescribed.

He calls Uddevalla a biggish town; and though he mentions the English sheep, the tobacco, and tea (?) as of possible commercial importance, what he always thinks of most are the indigenous 'marvels of the province.' Uddevalla is now a busy, thriving place of 6,000 souls, all pushing (politely) to get on.

Linnæus stayed here through July 19, looking up

the springs, animals, &c.; and on the 20th he travelled by Trollhätta to Hunneberg, which interested him more than Trollhätta itself. I expected to read an outburst of rapture over the cascades of Trollhätta, as he generally finds out and loves the waterfalls; but he is calm, quite calm—a geography book, or an American who knows Niagara, could not be more self-restrained. He merely says, ‘Trollhätta is a part of the Gothic Elbe; Gullö Fall is the strongest. This may be compared with Elf-Carleby, which is not much bigger. Whoever has viewed the Lapland waterpowers looks on these as toys.’ Perhaps he had not fitted his eye in focus after viewing the vastness of the sea. He was interested in the works in progress for the canal, the parent of the present Gotha Canal; Svendenborg and Polhem were then constructing locks at Trollhätta.

At that time the power of the picturesque was unrecognised in Sweden. There were then no troops of persons pressing forward with proffers of service of all kinds; guides, ‘buses, bunches of flowers, views of the place, &c., reminding one of the bakshish-hunters of Switzerland and elsewhere. There is really no need of other assistance than Nature has supplied us with—limbs, eyes, and ears—by-and-by to discover the rush of the distant cataract. The wild scenery of the neighbourhood prepares one for what is about to happen, and the slowness of the ‘cargo’ train coming from Lidköping allows one time to see this scenery well before reaching Trollhättan Station. The precipitous hill

strata are set on end, completely vertical, and crested with firs: orchards and cottages nestle in the under-cliff. Some wildly-contorted laminated strata are cut through in the rock just opposite Trollhättan Station. How the hills must have danced and leapt in those days of battle of the heat and cold when the eruptive rocks were suddenly chilled by the ice of the glacial period!

The scenery grows still wilder and as if something prodigiously fine were hidden behind it. And there is too; only we must pass these streets of red-painted houses first. Take nothing in your hand; just pass on fancy-free; you are sure to come upon something to rejoice in. Cross the bridge, or bridges, and you will see what it took the great mind of Linnæus to look upon as toys. Just now I am thankful to be smaller-minded; it seems the happier state.

From the gallery of a house belonging to a saw-mill the first recognised point of view we come to shows us the grand first sweep of the river over the precipice; while still a river it begins its helpless struggle with fate. The broad smooth wave of water is transformed as by some swift chemical change from green glass into snow; one waits expecting to see the volume cease falling; it looks impossible the great river should empty itself over the precipice all day and all night and never stop, get tired, nor be run out exhausted. But no: it goes on, ever falling, raging on, with an energy unquelled by four thousand years.

‘You are shut in, left alone with yourself and per-



fection of water,' to muse, and gaze, and listen to this song without words, this symphony of the vast continuous wave. There were sawmills here in Linnæus's day, so the aspect of the place is virtually unchanged for us. Then move lower down alongside the hysteric, broken, trembling river to the Toppö Island, which is a good point for viewing the great Gullö Fall.

There is a slender bridge leading across to the Toppö Island, which was not here in Linnæus's time or he might have changed his mind about Trollhätta. It is a grand point of view, this island centre of an eternity of foam. What a leak it is to the Venern,—the melancholy Venern, ever weeping at Trollhätta! It is a mighty cistern that can stand such a drain unperceived; though of course its falling does not increase its volume—a river is a river whether tumbling or still. Seeing this huge waste-pipe to the Venern only makes it the more surprising that the livelier circulation of the Vettern can be kept up by the Motala River only.

Below the tall spire of the picturesque, high-seated, high-gabled Gothic church is a black cleft, through which descends hissing and vanishing the Polhem's Sluss, a true waterfall (the larger ones are cataracts, not waterfalls), of small size but great power—as a picture; and beyond the church, winding ever gently downwards, the way lies through delicious woods to many points of view, each lovelier, it seems as we meet each varying mass of moving crystal, than the last.

But the gem of the whole region is the tiny 'Fairy

Fall,' the laughing Undine, with her pearl necklace; the pertest, sweetest, prettiest, merriest, and most companionable of waterfalls—a very Minnehaha. Sit down by this laughing Elf and bathe your hands and drink from them, and revel in Nature's caressing loveliness. Immortal, yet ever young, she has played her exquisite music, she has lived deliciously these last four thousand summers, cherishing the thymy flowers fringing her borders, the silent sweet companions of her course all these ages before man beheld her at all. But take care of yourself, for she has the spirit of the Loreley in her; the mossy steeps are slippery, and she is well-nigh irresistible. Beware of her by moonlight. Capricious and coquette you call her. No—she breaks no faith with you. She cares nought for your admiration. The bees and the birds are her lovers; these and the myriad living creatures that summer brings forth are her companions, her world. Her exquisite life is as far above your pity as it is careless of your admiration.

As attractive as the waterfall, in another form, is a white-flowered apple tree, all one foam of blossom, seen behind waving boughs of lilac. One might stay here the whole summer and not exhaust the scenery in sketches and enjoyment. Here are miles of sights.

Walk slowly up again, following the line of the great works of the Gotha Canal, made by Scottish Telford, who took up the task which the death of Kristoff Polhem, in 1751, left looking like a failure. Telford brought his mature experience to bear on the con-

struction, formed a better plan, and achieved the work the sight of which causes every Briton to stride the steamer's deck proudly through the whole breadth of Sweden. Then go again and sit on the gallery overhanging the great Gullö, to rest and 'pore' with placid indolence on the waterfall, musing on the diversities of strength and weakness in man and matter.

From this enchanting place Linnæus went to Tunhem,<sup>1</sup> and Holsjö, a lake south-west of Tunhem, and across the Hunneberg to Flo; then<sup>2</sup> by way of Hall, studying the wayward hills of Hallberg by the Venern and Häcklaberg; and<sup>3</sup> across the Ronnums-bridge over the Gotha Elf to Venersborg. Domed rocks swell from out the ground, among the brown rye-fields shot with green, the verges embroidered with purple wild geranium. A clear river broken by cataracts plays at hide-and-seek about the route, and from the pine-clad heights one overlooks the Venern with its creeks and promontories, viewing beyond a bay of the lake another hill-range with lofty crags of vertical strata.

Round Venersborg is some of the most pleasing scenery in South Sweden. The town itself is entirely surrounded by water. Tobacco formerly grew finely here under royal encouragement and the energy of the example set by Linnæus in all experiments. He went deep into calculation of the subject, however, and arrived unwillingly at the conclusion that tobacco was such an uncertain growth that he doubted if it could be grown

<sup>1</sup> July 21.<sup>2</sup> July 22.<sup>3</sup> July 23.

to profit in Sweden. This was the better for the country after all; for now-a-days the Swedes are seldom smokers, and they are the healthier therefor.

Linnaeus left Venersborg on July 24, turning his steps homeward. The sight of his beloved hills made him forget the charms of the coast. He names Kinnekulle, Billingen, Mösseberg, Olleberg, Halleberg, Hunneberg, and Trollhätta as the finest points he explored in this journey. He was now getting weary. He says his body, which in his journeys through Norway, *Denmark*, Germany, Holland, England, and France had endured many hardships, now began at times to feel exhausted. This feeling would have justified his taking a boat here and going up by water to Mellerud; especially as in the forenoon the Venern was agreeable, and the sky clear with lovely sunshine. Nevertheless he travelled on by way of Dalsland. So, likewise, on went we, our well-laid plan of following him compelling us to do the same.

Here and there the meadows below the hills round Venersborg in June look white like snow, with the rush-plant in bloom of white cotton down. Leaving the pleasant scenery of these parts, further on the land subsides again into levels and peat bogs; lifting by-and-by into billowy moors; then again sinking, leaving wide sky-space for the most glorious sunset, of apricot-colour edged with flame, above the dark firs, the green fields, and the distant purple hills; the zenith clouds above these last a paler, redder purple, divided from the hills

by the sunlight's flaming belt; all fading off to paler, tenderer tints towards home.<sup>1</sup>

At Röshult Linnæus notes the *Carduus lanceolatus*, one of the three sorts of thistle perennial in Upland and Bohuslän.

Soon the pretty white church of Mellerud with the steep gables came in sight, and from the higher slopes of the rising ground Linnæus, and we, looked over the long blue line of hills by the Venern's melancholy shore, with nearer ranges of grey craggy rock, broken by magnificent tall pines. The cottages hereabout are not often red but weather-grey; the land is clothed with heather, called in Norwegian *lyng*<sup>2</sup> and the marshes full of wild-duck.

The chains of purple hills formed of shale are very bleak and rugged on the Norwegian side, except where rounded by former glacier action. The rivers are fiords rather than streams; the people of these fells and dales are few and poor, and there is little cultivated land.

On with daylight across the Kopmännefjäll, a ridge of mountains four Swedish miles broad and twelve Swedish miles long, on the Norwegian frontier. Linnæus crossed the bridge over the Köpmann, keeping the side of the Westgotha Dal (and Wermland Dal) by Torparne to Åmål, a small town near the Venern, in the heart of the longest, dreariest, and most monotonous line of travel in all Sweden; the only town, however, he says, in the whole Dal. He arrived here on July 26,

<sup>1</sup> *England in the south-west.*

<sup>2</sup> *Ljung* in Swedish.

and here he was driven indoors by a long slow rain that would not let him keep dry. He went on Sunday forenoon to Åmål Church. In the afternooon Mr. Versasser and he walked out into the country to take lessons in old-wives' knowledge of Dal botany. He says the old women here have considerable knowledge, and he gives a long account of what he learnt.

On the 28th he set out for Karlstad, an immense journey through the lake district of the Wermland Dal, where even thus late he heard the cuckoo. He passed the Aswelsäter, keeping the hills on the left hand, and slept at Gästakrog. On again across the Ramsunds Bridge to Malöga; across the Stottsbro, a long bridge, to Karlstad on the Klara River, now an important town, destroyed by fire, and entirely rebuilt, since 1865. It was then a medium-sized town with fine schools and medicinal springs. Night fell on him with thick darkness. The lofty black forest appeared in the dark as high again as itself, and like a wall, visible in the lightning playing all around. The weather cooled, but he was glad to get to shelter after this toilsome journey.

On July 31 he came late—eleven at night—to Norum. Here he was shown the tallest tree in Sweden—a Scotch fir.<sup>1</sup> These firs, he says, are known to live 320 years in Finland.

On August 1 he stayed at the priest's house at Njed, arriving at Philipstad on the 2nd, where he looked over

<sup>1</sup> *Pinus sylvestris*.

the iron-mines and saw some solid copper and silver ore, and he went out with a party to try the waters of the chalybeate springs of Brattefors. He spent Sunday in Philipstad, and on the 4th he was at Nora. He remarks *Linnæa borealis* in all these forests and mountains. He stopped at Yusbitta, at a short distance west of Pärnbärg, where he studied the minerals; reporting upon them of course. Fatigued as he is, he never slackens work: this part of the journal shows as much diligence as the beginning.

Being at Sarå and Sarhytta, near the small lake of Saxen, in the midst of a lake district, brought the inland fisheries of Sweden to his attention. He was now on the borders of Nerike and Westmanland, and his arduous Westgothland journey was virtually over. Of Grythytta, where he stopped on August 5, he says it is a great village with a street and market-place, big enough to be called a town. All about here is an iron district. It is a pleasant road to the health-springs of Loka.

Linnæus slept at Hof Warnås on a peninsula rising in the centre of the half-moon-shaped Lake Halfwars. Travelling by Nors, Käringsborn, Greksåsa, and Gytorp to Bondeby, darkness overtook him before he found night-quarters.

On August 7 he visited the iron-foundries at Wedewäg; then, passing Blixterbo, he arrived for the night at Fallingsbro—the same place where he had found the *Linnæa* in flower on June 15. Now, on August 8, he



observes, 'Winter, which gives us frosty nights late in spring, comes quickly on again in autumn. So short has been this summer; but should a mild autumn follow upon it, it will make us soon forget this first winter night.'

'In many things the beginning and end are different; in few more so than in a tour, . . .' says Dr. Arnold. 'My mind changes twice—from my home self to my travelling self, and then to my home self back again. On this day seven weeks I travelled this very stage. Its appearance in that interval is no doubt altered: flowers are gone by, and corn is yellow which was green. But I am changed even more—changed in my appetites and in my impressions; for then I craved locomotion and rest from mental work; now I desire to remain still as to place, and to set my mind in work again.'

Linnæus makes short work of his journal through Arboga, Köping, and Kolbäck—the same road he took in going. He only notes that *Carduus crispus*, another of the three perennial thistles, of which he had seen few in the whole journey, was universal in Upland.

He was still working his way northward. From Fallingsbro autumn was ever before his eyes. 'The forest still had its green truly, but it was flowerless. The country people were in full work carrying their corn and harrowing the barley-fields. Women were busy lending helping hands: some were sewing winter clothing, some were waltzing. The herd-boys sang and blew their horns till evening prevailed and the sun sank below

the horizon on my return (on August 11) to the garden at Upsala.'

He at once prepared his journal for the press, and it was published in the following year. Honours awaited him at home.

'Barons Hårleman, Höhken, and Palmstjerna, and Count Ekeblad agreed among themselves to distinguish Linnæus, and to encourage him by a gold medal which they caused to be struck and dedicated to Count Tessin. On one side was the head of Linnæus with the inscription CAROL LINNÆUS, M.D., BOT. PROF. UPS., ÆT. 39.'<sup>1</sup> The specimen in the British Museum, perhaps a pattern-piece only, is of copper which shows traces of having been gilt.

'Charmed with the noble example of his patriotic fellow-citizens, Count Tessin also gave Linnæus in the following year a token of veneration. He ordered a medal to be struck representing on one side the bust of Linnæus, and on the other three crowns on which the sun casts his beams, with the simple and eloquent motto *ILLUSTRAT*, "He illumines." The medal is of silver about the size of a Dutch guilder. In the first crown the heads of an eagle, a lion, and a whale are very conspicuous; the two others bear plants and fragments of minerals.'<sup>2</sup>

This would seem something like the Creed and Commandments written on a piece of parchment the size of a florin. The whale looks like a minnow: it is, however, a really elegant medal.

<sup>1</sup> Diary.

<sup>2</sup> Stoecker.

‘On January 19, 1747, his Majesty was pleased, without any application from Linnæus, and without his even expecting it, to honour him with the rank and title of Archiater.’<sup>1</sup> Stoevers gives an account of this at greater length. I abridge his version.

‘Before Linnæus received this mark of private respect from Count Tessin—the microscopic medal—he had been rewarded with royal favour. Professor Rosen, the colleague of Linnæus, assisted by the advice of Haller, had saved the life of the late king, an infant. That prince was born on January 26, 1746. In the second month he became so ill that all hopes of his recovery were given up. Rosen was called from Upsala. He insisted that the prince’s nurse should be immediately discharged. The College of Physicians was against this determination, but was compelled to give its assent. In a short time the prince recovered, and Rosen was rewarded with presents, an annual pension of 500 dollars, and the title of Dean of the College of Physicians. Rosen was then the only man who ever bore this title in Sweden. The court could not overlook his colleague Linnæus, who among all the learned men of Sweden had rendered himself most deserving in the learned world.

*August 23, 1746: Linnæus to Haller.*—‘On my return from a journey of 256 miles’ [Swedish: about 1,728 English miles] ‘this summer, to the hills and seacoast of West Gothland, I found your highly welcome letter.’

<sup>1</sup> Diary.

He recounts to Haller many details of scientific interest, which he continues in a letter of September 1746. He adds: 'Mr. Everard Rosen' [a son of his old rival], 'who was here lately, tells me you have given him your engraved portrait, in a book containing the portraits of various learned men. Such a work is not to be had here, and I earnestly beseech you, by our long-established friendship, to send me this likeness of you by the first post. I have already the portraits of several distinguished persons,<sup>1</sup> from which I cannot suffer yours to be wanting. I would purchase it if I could at any price. . . . In return for your portrait I shall send you a gold medal of myself, but as it weighs about an ounce, I doubt whether or not the post will take it.'

'October 21, 1746—I have this very hour received, with the greatest delight, your most welcome portrait. A painting shows at once more than the most perfect description and hands down the living forms of men to their latest posterity.'

Linnæus about this time saved the Swedish Government some thousands a year by tracing the economy of the *Cantharis navalis*, the fly which is the cause of much destruction to the oak timber destined for shipbuilding. He directed the timber to be laid in water during the short period in which the insect lays its eggs.<sup>2</sup>

At the instance of Count Tessin, Linnæus also obtained the title of Archiater or Dean of the College of Physicians, January 19, 1747. On February 14, 1747,

<sup>1</sup> Collected in his travels abroad.

<sup>2</sup> Smith.

he was made a member of the Academy of Sciences at Berlin.

But amidst all the honours showered upon Linnæus, nothing gave him so much delight as the accidental discovery of the herbarium made by Hermann in Ceylon. Augustus Günther of Copenhagen, apothecary to the king of Denmark, had become possessed of this herbarium without knowing its value, and, being anxious to obtain information, took it to Linnæus in 1747; <sup>1</sup> an inscription in the fly-leaf of the book itself says he sent it in 1745 to Linnæus, who soon discovered to whom it originally belonged, and rejoiced at the finding of a treasure supposed to be irrecoverably lost. 'Linnæus devoted himself day and night to examining the flowers, which, from the great length of time they had been dried, rendered his task almost herculean.' <sup>2</sup>

The herbarium consists of four thick parchment-bound folio volumes of dried specimens and one volume of drawings of plants made by Hermann. There are 186 pages of careful drawings, done on both sides of the paper; some are in outline only, but they are for the most part tinted in black and white. The plants are all named by Linnæus. The portrait of Paulus Hermannus, professor of Botany at Leyden, in ruff and skullcap, marked 'Ob: 1641, Æt: 82,' with its keenly intelligent expression, gives a pleasing idea of the indefatigable old botanist. This print is inserted as a frontispiece to the volume of the drawings.

<sup>1</sup> Stoever.

<sup>2</sup> Diary.

I had recently heard one of our most eminent botanists speak enthusiastically of this collection, in some remarks on a lecture on the Flora of Ceylon, saying the plants are as fresh-looking now as if gathered last year. Knowing what Linnæus had said, and allowing for a certain natural warmth of assertion in impromptu statement, I was somewhat startled on seeing the crumbling state of the specimens on turning over the first few pages. They are in good condition certainly, considering; but Linnæus's statement is nearest the mark. It was interesting to turn over the very volumes Linnæus's hands had worked upon.<sup>1</sup>

What labour is here shown in the arrangement! The second page represents a whole long day's work. The specimens are carefully glued and papered out, and Linnæus's neatly written names, collated with Burmann's in his '*Flora Zeylanica*,' are abundantly annotated and altered by succeeding botanists. It was a work for a long Swedish winter; herculean he calls it—I should say a trial of patience to Job himself. With this addition to his knowledge of Ceylon plants—as he was already conversant with the collections of Burmann of Amsterdam and Hartog of Leyden, whose voyage to Ceylon was made at the expense of Dr. Sherard, besides the studies of Voss of Leyden, and a list of eighteen botanists who

<sup>1</sup> Günther either gave or sold Hermann's collection to Count Adam Gottlob Moltke, after whose death his library, including the herbarium, was bought by Professor Treschow of Copenhagen, who sold the latter to Sir Joseph Banks for 75*l*.

have written of Cinghalese botany, including the Englishmen Plukenetius, Rajus, Morisonus, and Sloane—Linnæus could now publish a magnificent Flora of that rich island. His 'Flora Zeylanica,' written at Upsal 1747, published at Amsterdam 1748, states on the title-page that Hermann's 'Flora Zeylanica' has been here revised, examined, determined, and illustrated by C. Linnæus.

A gloom was cast over all this work and rejoicing by the death of Linnæus's father, who died at Stenbrohult May 12, 1748, aged seventy-four, on the eve of his celebrated son's birthday. He who had ever sympathised with the joy of every fresh botanical discovery had passed away. A letter to Haller, dated May 1748, says, 'My father, Nicholas Linnæus, born July 1, 1674, died on the 12th of the present month.' Linnæus could feel with Carlyle, and with all who have lost good fathers, 'A whole section of the past seems departed with my father—shut out from me by an impassable barrier. He could tell me about old things, and was wont most graphically to do so, whenever I went to see him. Now he will do so no more: it is past, past!'



## CHAPTER XIX.

## HIS WORK FOR POSTERITY.

‘Nature has created many, small in person and external power, whose souls are so great, and whose hearts are full of such immeasurable force (*terribilità*), that if they do not begin great and almost impossible undertakings, and carry them out to the wonder of all beholders, they have no peace in their lives.’—VASARI, *Lives of the Painters*.

DOES all biography diminish in interest when the subject has won celebrity, as George Eliot affirms? Yes, for the struggle is over and—one always likes to watch a good fight—the hero is no longer in the thick of the battle. There is a lull; ambition is at home in its own element: it has attained the upper air; its course is no longer so passionately interesting.

There seems to me the exception to this rule in the case of men like Linnæus, whom no success can stupefy into slumber; who go on the more ardently working. It is as if they had climbed the hill only to fire the beacon that will kindle answering fires on all the hill-tops round, passing on the tale of glory or of warning through the realm. Linnæus had found truth and proclaimed it; he now proceeded to make the application. He had now to fit the capital to shaft, or rather to place

the column where it would support the building. The story of his life continues in his influence upon others. Now was displayed the master spirit fitted to lead men.

The great preacher is not bounded by his pulpit, though there he has most immediate sway. Linnæus became rector of the university of Upsala. This was his pulpit; from it he spoke to a listening world.<sup>1</sup> He was now an eminently prosperous man; everything went well with him, and all men admired him. 'Our successes always come in squadrons.' Prosperity softened him too. He wore the trappings of his learning 'with a grace but seldom judged expedient in such cases.' Truth fell with peculiar pleasantness and persuasion from his lips. He was, as has also been said of Kingsley, 'at home most blameless, simple, and cheerful, in all domestic relations; manful head and child-like heart'; and besides this 'he was, through his conversation, a source not only of much instruction, but of great elevation of character.'<sup>2</sup> In his public office he was charming as an official man can be.

Botanical lectures had hitherto been rather a matter of form than of instruction, and were not frequented. Linnæus came and entirely changed the face of affairs. His genius charmed the old and formed the young. Flora was more courted in Sweden than at any former period. His lecture-hall overflowed with a crowded audience.<sup>3</sup>

<sup>1</sup> The rector of the university, who is changed every year, is chosen from among the professors.

<sup>2</sup> Carr.

<sup>3</sup> Stoevers.

In entomology he adopted an entirely new mode of arrangement, which has been followed by most later entomologists. His merits in this line stand next to his botanical studies.

There is another circumstance in the manner of teaching employed by Linnæus too remarkable to be passed over: that of rendering his pupils subservient to the distribution of his own system, and of studying natural history for the advancement of the science and not merely as a branch of polite education.<sup>1</sup> By his ready flow of language, and the happy manner in which he communicated his ideas, he rendered the students converts from any system they might have previously adopted, and made them as enthusiastic in his method of study as himself. He pointed out the delight of discovery in the most fascinating terms, with ‘inferences so natural, spontaneous, and irresistible, that they seemed, as it were, borrowed from his audience, though none of that audience had arrived at them before.’ He had a wonderful power of exciting others to action. He was himself so deeply in earnest, and so capable of creating a vision of blissful attainment.

Like our own Dr. Arnold, a man of kindred mind, Linnæus was eminently fitted to be the guide and instructor of youth; like him, ‘he enjoyed the society of youths of seventeen and eighteen, for they are all alive in limbs and spirits at least, if not in mind, while in older persons the body and spirits often become lazy and languid

<sup>1</sup> Sir W. Jardine.

without the mind gaining any vigour to compensate for it.' Linnæus brought his disciples out of fusty rooms or frowsy cabinets to the freshness of the moorland air. With him botany was preferably an open-air exercise.

Students flocked from all countries to hear him, and in the summer he made excursions at the head of numerous pupils, in small parties, exploring in all directions. When any new plant or natural curiosity was discovered a signal was given with a horn or trumpet, when the whole corps joined their chief to hear his demonstrations and remarks.<sup>1</sup>

'The party used to collect plants and insects, to shoot birds, &c., keeping minutes of their proceedings, and receiving instruction in all these branches from the professor, who was generally accompanied by two hundred students, besides foreigners and persons of distinction attending from curiosity. The excursions commenced at 7 A.M. and continued till 9 P.M., when the party returned through the streets of Upsala in festive procession, with flowers in their hats, the music of drums and trumpets (used on their rambles for calling the students together), and loads of natural productions collected on the day's excursion.'<sup>2</sup> But, excepting this idyllic ceremonial, there was no pomp, no glitter, no banners, maces, &c. The reign of intellect had begun;

<sup>1</sup> 'The Scotch universities have been following Linnæus's plan of outdoor study with good results.'—JARDINE. Instead of making the health and education extras to life, as we do, this better system incorporates these with the life itself.

<sup>2</sup> Diary.

the Sparta of science had vanquished the Athens of art, the might of Rome's magnificence.

At that time all the young students of divinity were obliged to learn the elements of botany and domestic medicine, that they might administer to the bodily afflictions of their flocks where regular medical assistance might not be attainable in sudden emergency. The number of Linnæus's pupils and admirers was thus greatly increased. The seats of the formerly ill-attended botanical lectures were now full of grave and attentive youths, swarming enthusiastically round him, crowding together, exciting one another—which Coleridge gives as the meaning of 'Schwarmerey.'

His words were their wine, his eloquence their theatre.

The year Linnæus was rector (for the first time) they had tripled their usual numbers. The ordinary number of students in the university was 500; they were now 1,500. Among the aspiring and rising youth he drew many of the future great men of the century to Upsala. These were his intellectual sons; he brought them up from the very beginning. 'The first step in science is to know one thing from another.'<sup>1</sup> He had to teach them to use their own eyes in lieu of walking blindfold led by the hands of the ancients.

The laconism of Linnæus's Latin works makes them difficult to read; they must be studied. His Swedish writing is easy and pleasant in its diction. His 'terse

<sup>1</sup> Linnæus.

remarks fixed themselves on the memory ; his condensed epithets clung about his hearers like axioms ; his expression was picturesque and forcible.' As was said of Burke, ' You always left him with your mind filled.'

' Many a maxim " fresh from life," many a flash of bright thought, are among my possessions for ever—his gift,' was the feeling of his grateful pupils. He was a most effective demonstrator. His intuition was remarkable. His confident manner and his energetic reasoning upon an earnest enunciation enchained his audience. His strong enthusiasm and his picturesque yet incisive style drew about him the more ardent spirits among the students ; and even professors grew young again while enjoying his voluble and passionate discourse, which broke in upon the monotony of life, lifting them ' out of the dull commonplace of a lower level.'

' No calculus can integrate the innumerable little pulses of knowledge or thought that he has made to vibrate in the minds of this generation.'<sup>1</sup>

' New truths are the nutriment of the world's progress. Men of genius discover them, insist upon them, prove them in the face of opposition ; and if the genius is not merely a phosphorescent glitter, but an abiding light, their teaching enters in time into the university curriculum.'<sup>2</sup> Linnæus is the father of the ' modern side ' in public schools.

Linnæus was able to raise a university chair to its highest intentions—to real use in the advancement of

<sup>1</sup> A. Bain upon J. S. Mill.

<sup>2</sup> Froude.

learning. 'There are two things,' said Edward Irving, 'to be kept in view in judging of the worth of men—first, what powers they had, and then what uses they turned them to.' Linnæus not only turned his own perspicacious powers to the investigation and elucidation of truth, but he judged well of the best uses to put his pupils to. To rein in their zeal was the chief difficulty. He was keen to discern the bent of their genius and to develop and utilise their physical powers.

The majority of his pupils he encouraged to travel in their own country, each taking a separate district. But many of his pupils travelled abroad: Kalm, Thunberg, Solander, &c. According to Linnæus, the only true naturalist was the travelling naturalist. The circulation of knowledge to science is what the circulation of the blood is to man. 'The emulation excited among his pupils amply rewarded Linnæus by the vast harvest of useful information that flowed in from them after they were dispersed all over the world.' He was educating these generals of the great army of science.

Some of his pupils were best adapted for working with their brain in the laboratory, in analysis and preparation of what had been provided; some were constitutionally bettersuited for travel and research, utilising the 'robust and lavish strength of an age which had come with fresh delight to the study of life'; and the inquisitive minds of a race joyous, robust, and simple, 'often racy of the soil,' full of rustic vigour. There was work for all under the guiding and practical influence



of his wisdom. The garden at Upsala was the rallying-point of all ; and it now ranked equal, if not superior, to similar establishments in Europe. Upsala became of European celebrity—we only know Lund and Åbo dimly by name.

‘The older botanists, emerging, as it were, from a thick cloud of ignorance and book-learning, to a view of nature in broad daylight, did not at once acquire the faculty of seeing ; still longer were they learning to describe what they saw.’ Linnæus opened to them the book of Nature, and taught them to spell therein. They were first dazzled, then charmed. The glories of Nature were not yet fully unfolded, but, like new-born butterflies, they seemed all moist and dewy, as the rising mist left them exposed before a careless world, until the brilliant Linnæus, sun of the bright dawn of science, revealed them in all their beauty of colour, form, and texture. Now it is the blazing noontide, when nothing is left a mystery, when all is unveiled. All space is full of beams—so full that we are anxious to get out of the blinding glare. By-and-by, as in all things else, some new light will blaze out (more on a level with our eyes), displaying to us the intense perfection of scientific beauty. That hour will be the sunset ; next day comes on the turn of something else. Each art or science is brought to perfection, blooms, fades, and is forgotten.<sup>1</sup> The interest is over. The curtain falls upon that act of

<sup>1</sup> Pianoforte-playing, to wit, and the Italian opera, seem on the wane.

the great drama of achievement. 'Wherefore, O mortals, beware of perfection,' says Mephistopheles, with his cynical sublunary philosophy.

'1517,' said Niebuhr, 'must precede 1638'; so must 1742 pass before 1886. Linnæus must precede Lindley. Linnæus was the road-maker—others have travelled farther on his road. 'Well, roads are meant to be travelled on.' What though he knew nothing of where it led? But he did know—not the distant intermediate steps, but the final end, the glory of God; and in his piety he ever guided his pupils upward, giving the praise of his scientific discoveries to God, who revealed Himself through his eyes and mouth. 'Everything is full of God's reflex, could we but see it.' Linnæus made it his especial work to discover this and point it out.

He was led early to regret that natural history had not by public institution been more cultivated in universities, in many of which logical disputations and metaphysical theorising had too long prevailed, to the exclusion of more useful science. Availing himself, therefore, of the advantages which he derived from a large share of eloquence and an animated style, he never failed to display in a fascinating and convincing manner the relation this study has to the public good; and this was only a corollary of his first great proposition, the glory of God. He seemed to atone for his avoidance of becoming a divine by thus teaching divinity.

'In his lectures and botanical excursions he was frequently led into expatiating on the greatness of God,

and on such occasions his heart seemed to glow with celestial fire, and torrents of the most touching eloquence fell from his lips. His favourite observation or motto was *Theologia naturalis est vera philosophia*. The works of nature best teach the being of a God. Over the door of his lecture-hall he had inscribed 'INNOCUI VIVITE! NUMEN ADEST'—'Live guiltless! God observes you.'<sup>1</sup> 'The belief in a good and just God is the foundation, if not of a scientific habit of mind, still of a habit of mind into which science can fall and seed and bring forth good fruit.'<sup>2</sup>

He assisted his pupils by his purse as well as by his advice; for, though he is said to have loved gold more than any other mineral, he was generous. For my part, I believe he was always open-handed with his money; but, perhaps fortunately for him, his wife was of the contrary disposition, although by her parsimony she exposed him to the charge of meanness. We meet frequent proof throughout the records of his life of his having done many an act of expensive generosity. Remembering the kindness of Rothman, Stobæus, and others to himself in his own young days, he sought to repay it by passing on the same benefits to poor students of the succeeding generation. Several of the poorest he took into his house, employing them busily as secretaries—for 'he could dictate at once to his secretary and a dozen pupils besides.'<sup>3</sup> He committed his son Carl, at the age of nine or ten, to some of his favourite pupils, with the

<sup>1</sup> Stoever.<sup>2</sup> Kingsley.<sup>3</sup> Smith.

express command that he was to be taught to draw from nature, and to converse habitually in Latin. Loeffing, Falk, and Rolander were in turn little Carl's tutors.

His best and bravest pupils he sent out into the world to fight against its ignorance: Kalm to Canada, Hasselquist to Egypt, Osbeck to China, Toren to Surat, Solander to England, Alstroemer to Southern Europe, Martin to Spitzbergen, Montin to Lapland, Pontin to Malabar, Köhler to Italy, Forskåhl (of the *Forskåhlea*) to the East, Loeffing to Spain. Soldiers of science all them; some of them, as Hasselquist and Bartsch, Falk and Loeffing, its martyrs. No science has ever had so many martyrs as natural history. Naturalists learning nature and human nature pioneered the way for missionaries.<sup>1</sup> They all died prematurely: Ternstoem fell in the East Indies, Hasselquist in Syria, Forskåhl in Tartary, Loeffing in Samaria, Bjoernstahl in Macedonia.

These itinerant Swedes are called by Stoever 'the ambassadors of Flora,' and he proceeds to lament them in the loftiest strains of his magniloquence. It is a pity dear old Stoever never heard the Eastern metaphors concerning Saadi; he would have relished them so much. This one, to wit, which he put in practice—'He sought his only happiness in perforating with the diamond of his soul the precious stones of his experiences, and after gathering them on the string of eloquence, hanging

<sup>1</sup> 'As Clements Markham penetrated, in the face of danger and death, the trackless forests of the Andes, to bring home from thence the plants of Peruvian bark to save the lives of thousands.'

them for a talisman around the neck of posterity.' Stoevers vies with this pearl of rhetoric in writing about the botanists.

Their devotion to science and to Linnæus sent them to their death. They died for Linnæus and for 'the cause.' We can scarcely appreciate the difficulties of travel that the elder generations had to encounter.

Linnæus was singularly affected at the loss of Loeffling, February 1756, in Samaria, aged 27. Linnæus heard of it in July 1757. 'He was the best of all my pupils,' said Linnæus regretfully. He published Loeffling's letters under the title of '*Iter Hispanicum*,' 'in order that there might remain some memorial of so worthy a pupil.'

These travels originated many books of travel—Thunberg's '*Nine Years in Europe, Africa, and Asia, especially Japan*'; P. Osbeck's '*Journal of a Voyage to the East Indies*'; Sparrman's '*Voyage to the Cape of Good Hope*'; Kalm's '*North America*'; Ekeberg's '*Voyage to the East Indies*.' The latter was the captain of Osbeck's ship. He became conspicuous for his love of natural history and the zeal with which he served Linnæus. He succeeded, after many attempts, in bringing the tea-plant from China.<sup>1</sup>

Rolander, one of young Carl's tutors, travelled; but his voyage was of no great utility; he was one of those pupils with whose conduct Linnæus was least satisfied.

Falk, especially named as 'a poor diligent youth,'

<sup>1</sup> Smith.

whom Linnæus took into his house and made tutor to his son, as Celsius and Rudbeck had done for himself, became a martyr to science after Linnæus's death. Hasselquist went to Egypt and the Holy Land in 1749, and died on his way home, his work achieved. Niebuhr published an account of the expedition. Linnæus also published his travels,<sup>1</sup> and wrote a memoir of Hasselquist, which has been translated into English.

Hasselquist, son of a poor curate, underwent poverty at Upsala, supporting himself by tuition. Linnæus assisted him to a royal scholarship.

‘In one of his botanical lectures, in 1747, Linnæus spoke of the countries of whose natural history little or no account had as yet been communicated to the learned world. Among these, he observed, was Palestine, one of the most important and interesting in this respect, but of whose productions we had less knowledge than of those of India. This remark fired the zeal of young Hasselquist. In vain did his preceptor, secretly delighted with his enthusiasm, represent to him the difficulties of the undertaking—the distance, the dangers, the expense, and above all the weak state of his own health. All this did but increase his ardour, and he thought a change of climate good for his lungs. He declared he would rather walk all the way to Palestine than have his purpose crossed. He obtained some private subscribers and some help from the university, and began to learn Oriental tongues.’

<sup>1</sup> June 24, 1757.

‘Hasselquist went to learn facts, not to fit the Bible to his theories.’<sup>1</sup> But in this youth’s study of the vegetation of the Holy Land Linnæus must have been greatly reminded of his own young days when he aided Celsius with his book on ‘The Plants of Scripture’; of which the long-delayed first volume was only published so lately as 1745; the second not till 1752. I suppose Celsius had always meant to improve the ‘Hierobotanicon,’ and have it finely illustrated. This journey of Hasselquist’s must have been of immense interest to the veteran dean, and most likely spurred him on to the completion of his work. Of equal interest was it to Linnæus, who was far less prone than his senior to go learnedly and ingeniously astray—as Celsius did in the ‘Hierobotanicon.’ Hasselquist died in difficulties at Smyrna, and Queen Louisa Ulrica, at Linnæus’s instance, gave 14,000 copper dollars to redeem his collections, which are preserved at Drottningholm.

Thus by a wide reaching effort, by all these travelers under one central direction, was that foundation of modern science laid which has since been of such boundless service to mankind. Linnæus at once applied all their discoveries to practical use, or pondered over them for the enlightenment of the world.

‘The Russian has a right to pray against the locust swarms as long as he does not know (what we do) that

<sup>1</sup> Kingsley.



by tilling the waste lands instead of leaving them in wild turf he would destroy the locust larvæ.'<sup>1</sup>

Besides fostering the importation of raw silk into Sweden, where it was already unprofitably cultivated in Skåne, Linnæus wished to introduce a mulberry tree indigenous in Canada, in order that he might rear the silk-worm with greater certainty and ease. He directed his pupil Kalm's attention particularly to this object during his travels in Canada. We are not told the result of this effort. Many new and valuable medicines, however, were discovered and imported, and some practical benefit accrued to Linnæus personally, though indirectly, from the discoveries of his pupils.

A very severe fit of gout, brought on, in 1751, by his sedentary habits, subsided at the sight of the valuable collection of plants and natural curiosities brought by Peter Kalm from North America. Linnæus was in bed when his pupil arrived, but 'the desire of seeing the treasures, and the delight he felt when he saw them, made the gout disappear.'<sup>2</sup>

As a converse to this cure, we are told<sup>3</sup> that the disappointment about some cochineal insects sent home by Rolander caused Linnæus a violent nervous headache (*hemicrania*). Linnæus, always interested in dyeing materials, was very eager to obtain cochineal insects with a view to acclimatising them. After many unsuccessful attempts, his pupil Rolander was at last able

<sup>1</sup> Kingsley. Did Kingsley think of the vast extent of Russia, and the scarcity of labouring population in the waste lands?

<sup>2</sup> Diary.

<sup>3</sup> Ibid.

to send home some insects alive with a living cactus planted in a jar. The gardener carefully potted the cactus, without reference to the insects, which he destroyed in the process, unfortunately before Linnæus had even seen them.

The story is elsewhere more fully given.<sup>1</sup> Rolander went with Dahlberg, who took him by Linnæus's request, to make observations on the cochineal. He returned on June 29, 1756, from Surinam, having succeeded in sending home several of the insects, living, with the cactus on which they fed. He sent to Linnæus, who was lecturing just at that time, a cactus with cochineals in a jar. The gardener opened the jar, took out the plant, cleansed it from the dirt, and of course from the insects, and replaced it in the jar, so that the insects, though they arrived alive, were destroyed in the garden before Linnæus could even get a sight of them; and thus vanished all his hopes of rearing them with advantage in the conservatory. This grieved him so much that he had one of the most dreadful fits of megrim (*hemicrania*) he ever felt.

Rolander brought home a considerable collection of various other objects, but was ungrateful enough not to present his kind patron with anything, but went about slandering him, as Linnæus complains.<sup>2</sup> He gave his West Indian plants to De Geer, who gave them to Linnæus.

Linnæus further enlarged the scope of his interest

<sup>1</sup> Pulteney.

<sup>2</sup> Diary.

with the outer world by his constant correspondence with naturalists in all countries; especially John Ellis in the West Indies, whom Kingsley speaks of as measuring pens with Linné, the prince of naturalists.

Corals, and especially the crinoids, were then particularly engaging Ellis's attention and his pen.

'Look at the crinoids, or stalked star-fishes, the "lilies of living stone," which swarmed in the ancient seas, in such numbers that whole beds of limestone are composed of their disjointed fragments; but which have vanished out of our modern seas, we know not why, till, a few years since, almost the only known living species was the exquisite and rare *Pentacrinus asteria*, from deep water off the Windward Isles of the West Indies.'<sup>1</sup>

These discoveries of Ellis were taken in connection with a tribute from Linnæus's pupil Martin in Norway. 'He was the first person who sent to Linnæus specimens of *Anomia caput serpaulis* with the animals alive; which was a most gratifying present, for this species had never been seen before except in a fossil state.'<sup>2</sup>

Linnæus's effervescent imagination gloated over the visions Ellis's letters conjured up. What a link this was—bringing the antique world before him! what magic! Life, everywhere life, from unimaginable generations, and stored up in preparation for the future; every abyss sounded in sea and land—arranged in zones, Dantesque circles, 'according to the amount of light

<sup>1</sup> Kingsley's *Glaucus*.

<sup>2</sup> A. R. Martin again visited Norway in 1758.

and warmth each species requires.' Well might such a revelation blind him by excess of light. We to whom all this is as common daylight, can hardly conceive the astonishment caused by the glory of the sunrise.

And take a settled form—low if you will, but beautiful and interesting—the *Echinus*. Kingsley says, 'I think a lecture simply on the *Echinus* would astonish weak minds more utterly than anything I can guess at. And not merely weak minds, but minds courageous enough to follow a teacher into the realms of astonishment.'

While pioneering among the labyrinthine 'speculations of men carried off their balance by the brilliant physical discoveries' of that age, it shows the steadiness ('sound head') of Linnæus that he was not carried away—that in the highest things and in the humblest he sought truth only.

It was a splendid, vivid, growing time, that eager youth of science, so bubbling with novelties. Scientific men were like children with new toys—when 'forth a new creation sprung.' Botanists were almost overwhelmed with the riches that daily flowed in upon them, when Linnæus also enriched the world with a working plan, and, further, with the conviction that a perfect system of classification was feasible.

Science was no longer the dull war of polysyllables that it had been between the Rajians and the Tournefortians, for which the outer world cared no more than for the differences between Tweedledum and Tweedledee.

They had now the actual things, the treasures of the wide and deep, before them to speak for themselves. These were Elysian fields indeed—so glorious and beautiful, that the grey-haired students would have been unable to see the truth for the glory had not Linnæus held up a smoked glass through which he explained to them the marvels of this great light. To Linnæus may fairly be applied Emerson's epithet, 'the splendid bridge from the old world to the new.'

As Dr. Garden—who himself lived unenlightened but eager in Carolina and in Florida—wrote to Ellis: 'To you and Linnæus I owe the placing of me in a land of wonders.' That is, they opened his eyes to the wonders that were there.

Garden, whose name is embalmed in the exquisite *Gardenia*, writes to Linnæus, March 15, 1755: 'When I read your works I learn from you not only things of which I was previously ignorant, but even what I thought I had learned from other teachers.' He writes to Ellis: 'You will no doubt think it odd in me, who live so far from the learned world, to have such an avaricious desire after new correspondents. I cannot help it. I find that nothing is a greater spur to inquiries and further improvement than some demands from literary correspondents. I know that every letter I receive not only revives the botanic spark in my breast, but increases its quantity and flaming force. Else *ce feu, cette divine flamme*, as Perrault calls it, would be evaporated in a few years, and we should rest

satisfied before we had half discharged our duty to our fellow-creatures.'

The diligence of Linnæus's correspondence is the more marked from its comparative unusualness at that time. Sir W. Scott observes,<sup>1</sup> 'So slight and infrequent was the intercourse betwixt London and Edinburgh, that on one occasion the mail from the former city arrived at the General Post Office in Scotland with only one letter in it.'

While his life was enriched by his host of friends, correspondents and pupils, Linnæus, who had an eye for political economy clear almost as Adam Smith's own, wanting to shut the gate by which the silver left the country, wrote through Ellis to Dr. Garden, in 1758, to send him the cochineal insect together with the *Opuntia* that it adheres to. Linnæus also wrote to Dr. Garden for this purpose, telling him of a great disappointment he had once had when trying to import this valuable dye: 'I received from America some years ago several cochineal insects on the cactus (Indian fig), but the gardener in my absence mistook the young ones for some noxious insects, and cleared all away except two, which died without progeny. . . . Farewell, excellent patron and benefactor; and study that botany may always be turned to some beneficial purpose.'

Ellis writes to Linnæus, London, October 24, 1758: 'I have lately written to Carolina, to Dr. Garden to send

<sup>1</sup> *Heart of Midlothian.*

me the cochineal insect together with the *Opuntia* that it adheres to. I have been spoken to by several of your friends for that purpose.'

Ellis, January 1759, describes at length the cochineal insect, and is sending some to Linnæus, and he also tells Dr. Garden to send some to Linnæus.

But more than anything Linnæus was solicitous about the introduction of the tea-plant: the more necessary then, as the tea was so greatly injured by the long sea-voyage, and the best was a Russian monopoly.

He and his correspondents exhausted their ingenuity in devising means for preserving plants and seeds in the long journey by sailing-vessel round the Cape. They sealed them in wax, in gums, in air-tight cases, in perpetually moistened wrappers. Linnæus suggested putting the tea-seeds into earth just as the ship left China. This was eventually successful.

Linnæus writes to Ellis, Upsala, December 8, 1758:<sup>1</sup> 'I am happy to find you are intent upon a method of obtaining fresh seeds from China. Nobody has better opportunities than yourself for making this experiment, nor will anything do you more honour if successful. But I would especially recommend your attention to the bringing over a living plant of the tea from that country. The shrub is not easily killed, though it often perishes from the heat of the sun in the voyage towards Europe. Osbeck brought a living tea-tree as far as the Cape of Good Hope, where it fell overboard in

<sup>1</sup> Linnæus did not always date his letters.



a storm ; otherwise it would have survived. I am very sure this plant would bear the open air in England, as it thrives at Pekin, where the cold is more intense than in Sweden.'

Linnæus likewise warmly advocated the study of the Chinese *Materia Medica*.

In 1759 Collinson writes to him : ' Your plan of procuring the Chinese specifics is a good one, if it could be carried into execution. Many difficulties attend it from England, for we are not permitted to go up into the country. If the Court of Russia would adopt this scheme, and permit two skilful Swedish physicians to go in their caravan to Pekin, and procure them a licence from the Chinese Court for their tarrying there some years to learn the language and make acquaintance with their apothecaries and physicians, then we might hope to attain the knowledge of their art of healing and of their *Materia Medica*.'<sup>1</sup>

In May 1759 Linnæus recommends Solander to Ellis's friendship and protection, ' as I would my own. I only apprehend that your country may be too expensive for him.' Solander was the son of the pastor of Piteå, who had hospitably entertained Linnæus in his Lapland journey.

Solander was detained in Skåne by sickness.<sup>2</sup>

<sup>1</sup> Collinson in this letter laments Solander's supposed loss. He was sailing with Banks and Captain Cook.

<sup>2</sup> 'Dr. Ch. Solander was made under-librarian of the British Museum. The fears of Linnæus respecting the fruits of his celebrated voyage (with Capt. Cook and Banks) have proved almost

In November 1759 Linnæus writes to Ellis, 'Our queen has commanded her collection of insects to be drawn in their natural colours. Nothing can be more beautiful than what are already done.' There follows a lament over their failures with the tea-seeds. In 1760 Linnæus thanks Ellis for his kindness to Solander.

*Linnæus to Ellis.*

Sept. 1761.

'One of our ship-captains' [Eckeberg ?] 'actually brought a tea-tree alive as far as the Cattegat, but in a single night the mice stripped off the bark entirely and the tree perished.'

About this time the persevering and enthusiastic merchant captain, Eckeberg, brought the tea-plant alive to Sweden. Stoever is wrong in dating this event October 3, 1763, as we see by the date of Ellis's next letter. Linnæus's letter is lost, but in his reply Ellis takes Linnæus down a peg for fancying he was the first to introduce tea alive into Europe.

May 1762.

'You delight me in telling me of your success in getting a living and thriving plant of the tea-tree from prophetic, from the interruption caused by other avocations, the dissipation of London society, to which so agreeable a companion was always acceptable, and the indolence induced by a sedentary and luxurious life, suddenly terminated by apoplexy at the age of forty-six. . . . It was Solander who reduced our garden plants to order. His instructions made everybody correct and systematic, and introduced Linnæan learning and precision in spite of opposition.'—SMITH.

China. Our friend Peter Collinson ' [a Quaker, and therefore to be believed] ' says he saw two plants about twenty-five years ago in England, which grew freely and blossomed, but they were destroyed through the ignorance of a gardener.'

Ellis is now appointed king's agent to West Florida, which puts him in correspondence with many gentlemen gone to reside there.

Linnæus eagerly asks Ellis, ' What news have you, to whom Nature is every day revealing some secrets ? '

In this correspondence peeps out the usual jealousy of scientific men. Linnæus replies : ' You need not fear my communicating it '—the discovery of the *Asteria*, a coralline, one of those lilies of living stone—' prematurely to anyone. I am not accustomed to deprive others of their discoveries.' Ellis congratulates Linnæus on the honourable recognition of his services by his sovereign.

*Ellis to Linnæus.*

May 1762.

' Sir, the honours you have lately received from the King of Sweden could not add greater lustre to your name than they have given pleasure to all your friends in this corner of the world. Long may you enjoy them, and long continue to enlighten the understandings of mankind, hitherto prejudiced, and groping in the dark, till your excellent works brought nature into a method to be understood and cleared away those

difficulties, which frightened mankind from attempting to investigate her.'

Solander had just returned with Banks. Collinson writes as follows: 'London, September 2, 1762. My dear Linnæus cannot easily conceive the pleasure of this afternoon. There was our beloved Solander seated in my Musæum, surrounded with tables covered with an infinite variety of sea-plants, the accumulation of many years. Afterwards, at supper, we remembered my dear Linnæus and our other Swedish friends over a cheerful glass of wine. You are, my dear friend, the great and good man whom your sagacious king and queen delight to honour. Your long life spent in the most arduous studies, your unwearied application to improve mankind as well as your own country, very deservedly entitle you to the high honours so lately conferred upon you. May you long live to enjoy them, with health of body and tranquillity of mind. . . . You are happy, that you can sit at home and receive the annual tributary collections from all parts of the world. . . . To you, to whom Nature pays tribute from all parts of the world, could I expect to offer anything new? I am glad to find the China Argus proved so.'<sup>1</sup>

Collinson often asks for the '*Systema Naturæ*.' 'Are not my eyes to be blessed with a sight of that universal Pinax before I die—your masterpiece of nature?'

<sup>1</sup> Collinson sent a description, and feathers, of the Argus pheasant. Two feathers of its tail were fully three feet long. Linnæus was delighted with this novelty. The fine specimen in our Natural History Museum has the tail feathers over four feet long.

*Linnæus to Ellis.*

Feb. 1765.

‘In May last I laboured under a very severe and dangerous attack of pleurisy, and spent some time out of town to recover my strength.<sup>1</sup> I suspect that, through the fault of my servants, my letters were not duly forwarded. My tea-plant is still in health, but has not yet flowered.’

Bulletins concerning the tea-plant are issued with each letter, and kind, tender inquiries returned.

*Linnæus to Ellis, also in 1765.*

‘So extensive a country as Florida cannot fail, under your auspices, to yield a rich harvest to the learned world. Its lot is peculiarly fortunate in being subject to your control, and Florida may now truly answer to its name. We know but few of its vegetable productions, and scarcely anything of its animals. Fate has reserved them for you—to lay open many of these treasures of science. My tea-tree is thriving, but still without flowers; nor have I yet dared to expose it in the open air to the cold of our winters, having only a single plant.’

Ellis writes, 1765: ‘The provinces of the two Floridas afford certainly an ample field for the wonderful productions of nature; and if one of your pupils

<sup>1</sup> He attributed his recovery to the care and skill of Rosen, his former enemy.

were to travel through them they might be properly described ; but, to my misfortune, the people there are totally ignorant of natural history.'

Ellis has just met Solander at the British Museum, who assures him and Linnæus that he never received certain letters.

It appears there had arisen some doubts of Solander's honourable behaviour to Linnæus ; which were satisfactorily settled by-and-by.

Ellis writes in December 1766 : ' It is very odd that notwithstanding we have had fifteen ships from China this year we have not had one tea-tree brought home alive . . . We every day see a superiority in the Swedes over the other European nations. All your people that appear among us are polite, well-bred, and learned, without the vanity of the French, the heaviness of the Dutch, or the impudence of the Germans.'<sup>1</sup>

*Ellis to Linnæus.*

Feb. 1767.

'The insolent manner in which Pallas treats us will make me exert myself to show him that he is not infallible.'

*Linnæus to Ellis.*

Jan. 1767.

'My tea-plant is alive, but has not flowered, nor does it seem to bear our climate so well as heretofore.

<sup>1</sup> Ellis and Linnæus both loathe the 'German plagiarist' (Pallas ?) as mean and dishonourable.

Pray persuade Solander to write to his excellent mother, who has not received a letter from her beloved son for several years, which she much laments. Her residence is now at Piteå.'

Natural science does not always soften the heart. At Solander's sudden death several letters from his mother were found unopened. Linnæus was more tender than the son over the mother waiting, hoping, longing for letters, in her far northern home. She seems only to have heard through Linnæus of her son's safe return from his long voyage of discovery.

*Ellis to Linnæus.*

Aug. 1768.

'Mr. Fitzhugh, factor to the East India Company has just arrived, and brought a tea-tree home alive. It is an old one. I asked him particularly about the species of tea, green and bohea. He declares it is one and the same plant. He raised several plants from seed. I hear there is another tea-tree just arrived in fine order. The tea-plant here succeeds well from cuttings.'

*Linnæus to Ellis.*

Nov. 1769.

'Is your tea-tree that came last year in health?' —Here are, as usual, tender inquiries after their interesting families of tea plants.—'The King of France has received one, of which a branch was sent me by his command ; but this proved a species of *Camellia*, and not the genuine *thea*.'



*Ellis to Linnæus (triumphantly).*

Nov. 1769.

‘I have raised a tea-plant from a seed that happened to lie in the bottom of a tin canister from China, which I received this time twelvemonth. I put it into a pot of fresh loamy earth, under a glass cover, without heat, and in March put it into a gentle heat, and by July it was six inches high. There have been a great many raised that came over inclosed in wax, and many have been sown at St. Helena and were brought here in tubs growing; so that I make no doubt that by this time twelvemonth we shall have many hundred plants of the true tea growing in England.’

Linnæus inquires after the seedling as if it were a baby. Never was such a tea-tree. ‘It grows very well,’ reports Ellis, ‘being about seven inches high, and had a side branch, which is cut off and planted.’

Jan. 1770.

‘I suspect it is a deciduous plant, as the leaves begin to fall. We have now near one hundred plants of tea in England. I believe *we* have got a camellia from China, as well as the King of France.’

*Ellis to Linnæus (later).*

‘We protect the tea in winter under a glass frame, but hope it will stand our winter when we have sufficient to try the experiment.’

And so they went on coddling their darlings and rearing their families of cuttings; but, as Sir J. E. Smith says, 'It is much to be regretted that, from some peculiarity in the constitution of this precious vegetable, all attempts to reconcile it to the climate of any part of Europe have proved of no avail—at least to any economical purpose.'

The tea-plant's history has brought us in advance of our chapter; we must hark back to the earlier date.

Much of this correspondence and these natural history treasures were lost in those days of war. 'Good God!' writes Dr. Garden to Ellis, 'what is the meaning that out of twenty-one Carolina ships that sailed from hence in January last and beginning of February there should be nineteen taken, and with them no less than 500,000 lbs. weight of our best Carolina indigo?'<sup>1</sup>

Did this enormous prize lay the foundation of the French fashion of blue blouses?

Men of science were not always respected in these captures. Lawson was taken prisoner by the French (before 1746), but afterwards exchanged.

For all the foreign wars going on during Linnæus's reign over the kingdoms of Nature, his subjects and chief officers of all nations generally worked in harmony together. Miller sent Linnæus the dimensions of the cedars of Lebanon at Chelsea; these were lost in the post, which was always uncertain in the North and Baltic Seas. 'Seeds and specimens I have sent you

<sup>1</sup> This would seem an exaggerated report.

from year to year,' complains Collinson (March 1747), 'but not the least returns. It is a general complaint that Dr. Linnæus receives all and returns nothing. This I tell you as a friend, and as such I hope you will receive it in great friendship. As I love and admire you, I must tell you honestly what the world says.' A Quaker is well qualified to be the good-natured friend who tells uncomfortable truths.

In April 1747 crusty Collinson writes again: 'It is to no purpose to send seeds if you do not contrive a better and safer way of conveyance.<sup>1</sup> No doubt you have heard of dear Lawson's death, who is greatly regretted.'

Another death. In April 1747 Mitchell, writing to Linnæus of Dillenius' death, says, 'The Sherardian "Pinax" is still incomplete.' The English still looked to Linnæus to complete it, for in October 1747 Collinson writes, 'Dr. Dillenius was working at the "Pinax" when he died. What will be its fate now, I know not, for the present professor I do not think of skill sufficient to undertake it.' In April 1755 Collinson writes again, 'It gives all botanists a true concern to see the "Pinax" sink into oblivion and be lost for ever. It is only you, my dear friend, can restore it.' Linnæus was working energetically at the universal Pinax, the 'Systema Naturæ.'

April 20, 1750, Collinson writes: 'I industriously promoted your election' [to the Fellowship of the Royal

<sup>1</sup> Yet these things were not contraband of war.

Society] ‘because I knew that you merited that additional mark of the esteem of the English *literati*. We are greatly obliged to you for the account of the curious and learned works printing in Sweden. It is really wonderful how it is possible for you to carry on so many great works.’

In August 1768 Ellis writes to Linnæus, ‘Poor Collinson, our friend, is dead.’

Poor Miller had been hauled over the coals at Chelsea. He had written a voluminous book and thought a good deal of himself in consequence.

*John Ellis to Linnæus, 1756 (?)*

‘Though our Mr. Miller is a good gardener, he is of opinion that he is a most excellent botanist, which all the world will not allow him.’

Dr. Garden, writing to Ellis a gushing letter, concludes it with enthusiastic faith. It reads oddly, but it shows in what respect Linnæus was held by amateurs of science at that time. ‘If seas and mountains can keep us asunder here, yet surely the Father of Wisdom and Science will take away that veil and these obstacles when this curtain of mortality drops; and probably I may find myself on the skirts of a meadow where Linnæus is explaining the wonders of a new world to legions of white candid spirits glorifying their Maker for the amazing enlargement of their mental faculties.’

The correspondence was not always so sympathetic. Haller writes to Rosen de Rosenstein, ennobled in 1762,

dean of the College of Physicians at Upsala. 'The enclosed letter I beg you will deliver to Linnæus. Should he not return to more friendly sentiments, it may be the last I shall write to him. He has lately apologised to me in a letter, but in such a manner that I would rather have been without his apology. I have in many instances shown myself his friend, indulged his failings, contributed to his reputation; but do not find that return for my kindness which I had a right to expect. I shall hereafter publish a "*Prodromus Floræ Germanicæ*," in which I will treat Linnæus in such a manner as he shall then have merited on my account.' Haller was often petulant; for all his greatness, he was but human—very human, indeed, when he threatened to hurl a ponderous '*Prodromus Floræ Germanicæ*' at his rival's devoted head. Rosen's was, maybe, a sympathetic ear.

'Whatever was neglected by the father' [Haller] 'to show himself the public opponent of his Northern friend was accomplished by his son G. E. Haller; but his tracts directed against Linnæus formed no epocha nor reform.'<sup>1</sup>

Linnæus was of habitually sweet temper, but when in a rage even his wife was afraid of him, though she was not usually a cock-pecked wife. He was not apt to forget an offence easily. 'I will not suffer myself to be deceived a second time,' he said, and acted upon it.

Burmah sent him Cape plants, and Governor

<sup>1</sup> Smith.

Tulbagh, of the Dutch settlement at the Cape of Good Hope, sent two hundred of the rarest vegetable productions to Linnæus, and caused to be packed up with great care a multitude of bulbous roots. Linnæus considered his collection of Cape plants one of the finest that had been hitherto made. The Upsala garden having been rendered by means of the extraordinary extent of Linnæus's correspondence,<sup>1</sup> and by his own unremitting attention, the richest at that time in the world, he was naturally anxious as to its fate after his decease.

This anxiety is shown in several of his letters. He writes, Oct. 23, 1761: 'Should anyone get the management of it but a person who from his youth has been bred up to it, then this garden, at present undeniably the richest in the world, in respect to plants, would within a few years be in as bad a state as the Oxford garden is now, which when Dillenius was alive was the first, but which during the two first years that S—— had the management of it was almost ruined.' He says later, 'If I live three years longer, I am confident that nobody will be able to take better care of it than my son, and therefore he is the proper person to be employed when I am gone, should the public wish to keep it up.'<sup>2</sup>

<sup>1</sup> Of which twenty-eight large boxes full have been preserved by the Linnæan Society. These papers, with others relating to his life and works, were carefully bound when the Society entered upon its fine new rooms.

<sup>2</sup> When his own mind commenced to wane—at fifty-six—in 1763. His son, at twenty-two, was appointed assistant professor; the salary was increased, but Linnæus was not permitted to resign.

It is the world's nature to overload the willing horse. 'Work rose open-mouthed' upon him on every side. It needed all his systematic disposition to reduce the multitudinous confusion to order. Besides his correspondence, his lectures, and his daily work as head-gardener to Europe, the name of Linnæus's published books is legion.<sup>1</sup> The '*Amœnitates Academicæ*' were being continued all this time. This work was begun in 1749,<sup>2</sup> and continued to 1769, making seven volumes, containing one hundred and fifty dissertations on the history and economy of nature; each paper being, at that dark time, a new window.

His books (in sheets) were purchased by L. Salvius of Stockholm, who for many years made large exportations of books to the Dutch fairs.

1748.—'The Kongl-Cancellerie Collegium issued an edict prohibiting every Swede from printing or publishing anything abroad under a penalty of one thousand silver dollars' [more than 80*l.*]; 'which was aimed entirely at Linnæus, as no one else had published anything abroad. This tied up the hands and faculties of Linnæus so much, that he was on the point of vowing never more to publish any work, except some dissertations'<sup>3</sup>—by which he probably meant the '*Amœnitates*.' How could Linnæus reconcile this with his aim to keep silver and all other good things in his own country?

<sup>1</sup> The Linnæan literature, chiefly comprising his works in their different editions and commentaries upon them, fills 120 pages, or nearly half a volume of the British Museum catalogue.

<sup>2</sup> Or, more probably, 1739.

<sup>3</sup> Diary.



‘Is it that we are Reformers in our neighbours’ trade, and Conservatives in our own?’ His multifarious works were interrupted by a very severe attack of gout. ‘His fits were so violent as to deprive him of sleep, nor could he ever keep his feet quiet; it went to his hands also. They despaired of his recovery.’<sup>1</sup>

Smith and others say this illness occurred in 1749; the ‘*Amœnitates Academicæ*’ and others speak of it occurring at the end of June 1750. Weight of evidence is in favour of the first date, bulk of evidence of the latter. I incline for once to go with the biggest heap, since Linnæus cured himself by eating wild strawberries; because he made a tour in Skåne in the summer of 1749, and returned after the strawberry season was over.

Linnæus laid the foundation of disease by continual sitting, writing, and labouring. One day he ate wood-strawberries, fell asleep, desired more to be given him, and two days after rose from his bed entirely restored. He caused his servants to purchase all that were brought to his door.<sup>2</sup>

To this attack of the gout, however distressing to the patient, the world is indebted for one of his most valuable and remarkable works—the ‘*Philosophia Botanica*.’<sup>3</sup> The substance of this book must have been comprehended in the mind of its author when he wrote his ‘*Fundamenta Botanica*,’ of which it is professedly a dilatation or exemplification in the form of a commentary on each aphorism throughout. But, though he

<sup>1</sup> Diary.

<sup>2</sup> Ibid.

<sup>3</sup> Smith.

had long meditated on the subject of this publication, which embraces the whole range of botanical science, and indeed all the principles of natural knowledge, he had made but a few notes, not being able to digest or select his ideas sufficiently to his own satisfaction to communicate them to others. This illness, however, prompted him to rescue from the grave, to which he supposed himself hastening, whatever might be of service to those he left behind, and his pupil Lœffling was employed, sitting by his bedside, to write down whatever the intervals of his sufferings allowed him to communicate. The manuscript afterwards received his own corrections, and the book came out in 1751.

Rousseau calls this the most philosophical book he had ever seen ; it was produced in a truly philosophical manner.

## CHAPTER XX.

TOUR IN SKÅNE.<sup>1</sup>

We paused amid the Pines that stood  
     The giants of the waste,  
 Tortured by storms to shapes as rude,  
     With stems like serpents interlaced. . . .  
 We stood beside the pools that lie  
     Under the forest bough,  
 And each seemed like a sky  
     Gulphed in a world below :—  
 A purple firmament of light,  
     Which in the dark earth lay,  
 More boundless than the depth of night  
     And clearer than the day—  
 In which the massy forests grew,  
     As in the upper air,  
 More perfect both in shape and hue  
     Than any waving there . . .  
 There lay far glades and neighbouring lawn,  
     And through the dark-green crowd  
 The white sun twinkling like the dawn  
     Under a speckled cloud.  
 Sweet views, which in our world above  
     Can never well be seen,  
 Were imaged by the water's love  
     Of that fair forest green.—SHELLEY.

ON April 29, 1749, Linnæus set out for his sixth and last tour—a journey of economic investigation through Skåne, Sweden's southern and most fertile province.

<sup>1</sup> No account of this tour has ever before been written in English.

It is needless to repeat the account of his passage through Upland and Westmanland, although his diary teems with fresh observations; one would fancy the country was as new to him as on his first journey. He leaves home some three weeks earlier than in his previous tours, and the less advanced state of the vegetation leaves him time to descant on the numerous fires lit on Walpurgis Eve (the last day of April) in the country round Westerås, which he considers relics of the *Floralia* of the ancients, of which we have also a trace in the famous *Flora Day*<sup>1</sup> of Helston, Cornwall.

He passed, as before, by Köping, Arboga, and Örebro. It seems to have been an unusually mild spring and early summer; as he passed southward a full vegetation welcomed him. He notes hearing the cuckoo for the first time on May 3, in Nerike, and records his meeting with oil-beetles.<sup>2</sup>

He varies his route down through East Gothland as much as may be, taking in many new and insignificant places, which he with his tutored eyes always finds full of interest. He speaks of the Swedes using the abundant young green nettles in place of cabbage, but he is not enthusiastic about their merits for the

not even in the translation of Stoevers's biography, though the journal of the tour was twice translated from the original Swedish into German. Klein's translation is less known, though better, than Schreber's, but Schreber's has plates of plants, methods of training trees, &c.

<sup>1</sup> May 8.

<sup>2</sup> An insect of the genus *Meloe*, from the joints of the legs of which exudes an oily yellowish liquor, used in rheumatic complaints.—BAIRD.

table. Nor am I, and yet I tried them hopefully. It is an acquired taste.<sup>1</sup>

On May 4 he entered Småland, reaching Wexio on the 7th. Here he is astonished at the growth of the trees and of the town altogether. He was present at the grand ceremony of the consecration of the new bishop of Wexio.

The lime trees (he observes the lime as the tree of his family name) showed their buds to him as he proceeded on his journey, by way of Bergquara, through Engelholm to Wirestad, where he spent his birthday (Old Style) with his sister Mrs. Hök and the members of his family assembled at her husband's rectory, the survivors of the family of his childhood.

His brother Samuel was on the eve of marriage with the daughter of the prebendary of Makaryd, having succeeded his father in the rectory and prebendary of Stenbrohult.<sup>2</sup> The elder brother was full of sympathy as he and Samuel walked about Gabriel Hök's glebe, 'calmer than lovers, yet more kind than friends.'

It is pleasing to note Linnæus's extreme affection for his family, and with what gladness they always welcomed him. He mentions the *hägg*, the bird cherry, the especially Linnæan tree of his childish

<sup>1</sup> Nettles are rather to be recommended to the rich than the poor, seeing that the rich require novelties; they nibble bananas, prickly pears, &c.; having time to spare to acquire the taste for these things.

<sup>2</sup> Genealogical table constructed by Linnæus.

memories, as full of bloom as on May 13.<sup>1</sup> There was great sweetness in thus reviving boyish memories with his brother. How we miss those who are dead when the lesser, the sweeter pleasures of life, its merry tales and associations, crop up round our feet! It is *then* we long to walk with them again—with them, our earliest companions.

He stayed two clear days with the Höks, and travelled on May 15 to Stenbrohult. The family had not spoilt his birthday festival, but as he journeyed homewards with his brother he learned the misfortune that had befallen their childhood's home. It had been burnt down, and the beautiful garden, 'planted by his father with the rarest herbs in Sweden,'<sup>2</sup> the loved memory of his childhood, was wasted and destroyed. Samuel's personal loss had been hidden in his wish to spare his elder brother pain. 'It is a mighty, unconscious stream, that brother's love, and sacrifices itself often for a man with whom it seldom exchanges a word.'

It was just a year since the death of his father, who was mercifully spared a sight so pitiful as this; but Carl Linnæus lamented over the lost joys of his childhood on seeing the ruins of that house where he was inspired with an inclination for science so passionate.

The memory of early days rushed over him as a flood. The neighbours came round him; he had known them, the grey-haired white-bearded ones, when they

<sup>1</sup> This is early for this tree to be in flower.

<sup>2</sup> Journal.

were strong young men. They clasped hands and mingled sympathy with their welcome.

He spent almost the whole of that day and the next botanising in the churchyard.<sup>1</sup> He, 'the son of parents passed into the skies,' sat down here to lament them.

The limbs of my buried ones touched cold on my feet.

He felt 'the awful feeling of having the roots which connect one with the last generation, seemingly torn up, and having to say, *Now* I am the root ; I stand self-supported, with no older stature to rest on.'<sup>2</sup> The remembrance, too, of his mother 'was drowned in sorrow to him ; but also in tenderness, in love inexpressible,' more felt than ever now that he was himself a parent. 'I cannot tell you,' says Dr. Arnold, 'how solemn a thought it is to have now lost all my relations of the generation preceding our own, and to be thus visibly brought into that generation whose time for departure comes the next.'

That he gives no list of plants as a result of his botanising is a pathetic negative evidence that his heart was too full for his mind to relieve it—that he was doing nothing, but sitting 'silent in the middle of old unutterable reminiscences, most interesting to him on this side Hades.' The buds were casting their swaddling-clothes and the fir-trees the thimbles off their drooping shoots. Bees buzzed around the family lime tree, now fragrant with the opening blossoms (early this



year),<sup>1</sup> as on May 17 Linnæus left Stenbrohult for Loshult, and, skirting Lake Möckeln, he entered Skåne by Getabäck, following an altogether different line of travel from his first journey, as a young student. Skåne, called the Garden of Sweden, is more like Denmark with its pleasant cornfields and beech groves, so different from the interminable stretches of birch and pine in the more northern provinces. It has less of an outlandish seeming to us Southerners, who find the aspect of its villages homely with their white churches and the frequent country-houses of the nobility and the Swedish well-to-do. We cannot speak of wealth in Sweden in our sense of the word, as their notion of it is so different : a building the size of a parish church is a Swedish cathedral ; so a village is a town, a town a city, and so forth. They even exaggerate the size of the country, vast as it is. The maps in the coffee-room at Lund Stadshuset Hotel are simply stupendous. Skåne looks as large as all Spain, and the general map of Sweden and Norway is so complete that there seem as many villages as there are inhabitants in the land. 'Never,' said a young English lady traveller, 'did I see anything more appallingly vast than the size of Sweden on these maps. It seems as far to Wieslanda as to England.' Our maps give a very different idea of Sweden to what theirs do, and travelling by rail, by its slowness, carries out *their* idea. We may well

<sup>1</sup> There is nothing bees love more than lime-blossoms ; Samuel Linnæus, often called the 'Bee-king,' was a great bee-fancier.

consider Linnæus a great traveller, as he carefully investigated all these parts before the roads were as good as they are now, and when railways were only dreamt of.

In Sweden Linnæus travelled in the really pleasurable way, calmly, at the pace of horse or foot; not like our generation, who, riding in whirled vehicles, see<sup>1</sup> the hedges in full gallop on each side of us; as Carlyle describes, ‘the woods, and houses, and all objects but the fixed blue of heaven, seem to be madly careering at the top of their speed, stormfully waltzing round transient centres, the whole earth gone into menadic enthusiasm—a soul-confusing phantasmagoria—he himself all the while locked into dead quiescence.’

At Marklunda Linnæus begins to observe officially, and makes notes of the dwelling-houses, churches, &c. The subject of agriculture he treats pretty largely, making remarks on the culture of marshy grounds, and on various useful or noxious herbs, particularly the *Stakar*, supposed to be the water-hemlock, which, it is believed, renders horses that eat it paralytic, the *Gramen manncæ*,<sup>2</sup> the seeds of which are so useful in fattening geese, the intoxicating mushroom,<sup>3</sup> &c. The fields were aglow with the splendid crimson *Primula farinosa*; and on the outskirts of the woods he frequently saw the light grey-backed hooded crow<sup>4</sup> with glossy black head and beak, black wings, tail, and legs. It is not at all

<sup>1</sup> Carlyle on *Spiritual Optics*.

<sup>2</sup> *Festuca fluitans*.

<sup>3</sup> *Agaricus muscarius*, a poisonous kind.

<sup>4</sup> *Corvus cornix*.

uncommon in Scandinavia, where the carrion-crow<sup>1</sup> is never found.

At Broby he begins to feel the mildness of the southern climate; at Sinclairsholm—which has a decidedly Scottish twang about the name—he fills his pages with zoology. The country here is less well-watered than in the north: the lakes are few, but, being mostly shallow when not positively marshy, they teem with living creatures. All this brings him, on May 19, to Christianstad.

An oak, hewn down yesterday, lay by the wayside; he counts the rings to find its age, marking with a X the years when the rings are narrowest, and with O when they were broadest, to see if these agree with recorded data of heat and cold, and seeing how these hot and cold seasons group themselves. His marks date back a century from that time, and the grouping of the O's and X's is distinct and positive. Six cold seasons come without a break from 1718 to 1723, seven warm seasons from 1732 to 1739, with only a break of a middling season in 1735. The rest are grouped, but

<sup>1</sup> *Corvus corone*. The singular geographical distribution of these birds is clearly exhibited in our Natural History Museum. The hooded crow inhabits Eastern Europe and Western Asia, from Scandinavia to the valley of the Yenesay, and from the Arctic Circle down to Egypt and Afghanistan, excepting in a central belt comprising England and Ireland, France, Spain, Austria, and the Caucasus, where, as well as in Eastern Siberia, the black carrion-crow replaces this variety. There is a small colony of hooded crows in the north of Scotland which have crossed over from Scandinavia. There are several intermediate conditions of colouring found on the confines of that region inhabited by each of these varieties of crow.

not quite so positively. The large size of the walnut trees is an evidence of the general mildness of the climate here. From Christianstad the burgomaster Schulten accompanied him to Åhus, the port of Christianstad. The Helgeasjo was then more of a lake than it is now; the weeds in summer make its surface look like a meadow. A good deal has been done towards draining this lake, so as to reclaim thirty thousand acres of land, and render the town less unhealthy. Linnæus says that lavender and rosemary thrive here as well as even on the Spanish hills. He admires the church of Christianstad, and no wonder: it is the finest specimen of the Renaissance in Sweden. He describes its chancel of black marble, with alabaster pictures upon it.

He made a détour by the lake, visiting Råbelöf, Baldurbergshåla, whose name is a legend in itself, the saltpetre works of Torsebro, the chalybeates of Åby and back again by Torlof and Araslof to Asum, south of Christianstad, where the Pastor Risberg had a plentiful and delightful fruit garden, with mulberries and almond trees, which were not injured even by the hard winter of 1740. Tobacco flourished finely here.

The tobacco raised round Åhus is highly prized by the Swedes. Its good quality is attributed to the manuring of the land with seaweed, and this cultivation has given high value to that otherwise poor soil.<sup>1</sup>

<sup>1</sup> Du Chaillu.

The Scanian feather-pink<sup>1</sup> clothed the sandy plains with its fragrant white flowers.

Even at that time many fine houses were to be counted in the neighbourhood of Christianstad. On May 25 Linnæus was received at the noble estate of Mr. Rammel at Maltesholm, now the residence of Count de la Gardie, surrounded by a clear moat, with French gardens and an English park—an exquisite place. Here he finds plenty to describe, and next day he turns S.E. to Hwitsköfle, ‘a place equally excellent, the heritage of Countess Ascherberg; a place looking like a castle with walls and towers.’<sup>2</sup> On his way to Raflunda he saw a high waterfall, called Forssakar, near which one could best observe the lie of the strata of the land. The courteous and learned pastor of Raflunda industriously accompanied Linnæus to see everything of note. Here he remarks the straw-thatched houses, a mode of roofing almost unknown in other parts of Sweden. Houseleeks and strange vegetables grow thereon. Trout are abundant in the little river.

‘Having never seen the corallina of Pallas’s “Zoo-phyta,” I have a thousand times wondered whether it could have been produced like the *Ulva intestinalis*, a marine plant which grows on housetops in Scania,’<sup>3</sup> as recorded (by Linnæus) June 1749.

Ellis writes to Linnæus: ‘As to vegetable sub-

<sup>1</sup> *Dianthus Scanensis*.

<sup>2</sup> Few of these fortified baronial castles exist now in Sweden.

<sup>3</sup> Snith.

stances, such as the *Ulva intestinalis*, growing on the thatch or straw covering of houses, exposed to the sea, and often moistened by sea water, I am not at all surprised; but to consider, as Dr. Pallas does, that a calcareous animal substance, such as a coralline, should grow in common earth, above thirty miles from the sea, is absurd, unnatural, and contrary to all experience.'

Andrarum, further up this river to the westward, was his next stopping-place; here he inspected the alum-works, and in his journal he goes deep into mineralogy. Thence he returned to Raflunda, and Kivik, on the seaboard, where there are curious engraved monumental stones, the only ones known in Skåne.<sup>1</sup> The beach afforded him two closely-printed pages of description; he followed it on to Stenshufwud, ever describing. This beach was like a museum; it was also interesting to contrast this with the south-west coast of Sweden. He slept at Rörum, and on June 1 still followed the coast to Tjörndel and Cimbrishamn. This place, a small town in his day, possessed abundant herds of sheep and some English rams. In Skåne and some other places, he says, 'the ram has sometimes four, six, or eight horns, that part growing luxuriant to excess, like double flowers.' He remembers having found hornless cows in Angermania, with rudimentary horns under the skin.<sup>2</sup> Tomarup is the next halting-place on the way to Gärsnäs. He examined the slate-quarries with interest, and

<sup>1</sup> Prof. Nilson pronounces one of these to be Phœnician.

<sup>2</sup> Were the knot-cows so unusual in his day?

the vineyards at Gärsnäs. The storks, which halt to rest themselves in Skåne, make their nests here in this mild climate; they do not stop anywhere higher up in Sweden. The storks arrive in Sweden yearly about March 24, and depart about August 10.

On June 7 the attractions of Tunbyholm, a seat of his old friend Baron Reuterholm, drew him northward and away from the sea; thence he went still further northward to St. Oläf, where there was a famous Catholic church, of which he describes the interior. From hence he followed the high-road to Lund. 'The black poplar grows so readily here in the rich tawny earth, that one has but to stick a bough in the ground, leave it alone, and it becomes a tree;' but at Sisbo began the long sand levels,<sup>1</sup> in an elevated belt of about seven English miles wide and twelve miles long. The Romeleklint commands a view of the whole province of Skåne. Dalby, where the sands come to an end, lies like a Land of Canaan across them on the other side. In Skåne, buck-wheat<sup>2</sup> is sown on the sandy soil, improving it in process of time.

Of Dalby Kloster, once a twin bishopric with Lund, under the English Bishop Egino, some fine ruins remain. Lund lay one Swedish mile from Dalby. Here Linnæus was at home, so to speak, and able to rest.<sup>3</sup> He walked into the cathedral, and looked at the carving of an ass fallen under the weight of his burden that is sculptured at the base of a column at the entrance of the nave, with its curious inscription, 'A donkey is he

<sup>1</sup> *Romeleklint.*

<sup>2</sup> *Polygonum Fagopyrum.*

<sup>3</sup> June 10.



who takes upon himself more than he can bear.' 'Am I that ass?' reflected Linnæus; 'have I taken upon myself to reform science, and am I unequal to the task?' A few days' repose at Lund, and a comparison of his position with that of the poor student who had entered Lund only to find his protector dead, and himself peniless, and without a character, showed him that he had outreached even his dreams of fame. He was himself again. He was more like giant Finn who built the church, which, as the legend runs, was, after all, never to be entirely finished; no more is the cathedral of science; everlastingly there is left something to do, some part to begin over again. At this, his first visit to Lund for twenty-one years, he found the place had increased so considerably that he hardly knew it again. Count Gyllenborg and Baron Harleman had been great benefactors to the place; the museums had been greatly enriched and many valuable books had been added to the library. Lund has increased considerably since Linnæus's time, but it will never again reach its anciently computed population of 200,000 souls.

*June 11.*—'To-day I looked up the "*Flora Lundensis*," which twenty years ago gave me so much pleasure. I took a walk round by the ruined walls of the town, and remarked the very great change that had taken place even here.' By his list and descriptions one would think the walls had become richer than ever in flowers. He ascended the hill where as a boy he had observed the incantations of the Valborg's Eve (Walpurgis Night),

and here another moral might be drawn for Linnæus. The age of magical superstition past, that of truth had opened, and he was a chief among those who were unclosing the world's eyes. His influence from Upsala had affected the daughter university of Lund.<sup>1</sup> Through his influence mainly the national educational course in Sweden had come to include horticulture and forestry, and the technical elementary schools to include zoology and botany. Two agricultural colleges have since been established, one at Ultuna, near Upsala; the other at Alnarp, near Lund.

From here he travelled by Akarpahog to Malmö. He describes the beautiful Renaissance town-hall with the portraits of the Danish kings and queens; and the Knütssal, formerly the council-chamber of the powerful Guild of Canute; and the Malmohus with its scaled gables; and its castle between the town and the port; 'the prison of the most restless adventurer of his age, James Erle Boithuille;' besides Malmö's Romanesque St. Paul's Kyrka and quaint Kockümskahuset, all of which offer so many picturesque points of view. Malmö ranks as third town in Sweden. The fish, including capital turbot, occupied Linnæus's attention here, as well as the plants and industries. He finds the climate mild as Holland. Another day is given to geology and looking up the building-stone; the 15th of June is devoted to botany entirely. He worked so hard that on the 16th

<sup>1</sup> Upsala University was inaugurated Sept. 21, 1477; Lund, Jan. 28, 1668. Upsala was already a seat of learning in 1249.

he laid himself up with an attack of nervous headache—a malady to which he was subject. He recommends light wine as a cure, though he says he does not care to take wine away from home, anywhere he is not sure of its being very good.

It is doubtful if he went to Copenhagen, which lies so temptingly visible from Malmö. He does not mention doing so, but as a visit to the Danish capital would have been non-official he need not have included it in his official journal.

In the afternoon of the 17th he travelled from Malmö towards Hiely<sup>1</sup> and Tullstorp. The trees rustled with the refreshing music of June. He admired the country and its soil, a fine whitish loam, and the white chalk hills, though these are less lofty than those of Moen Island in Denmark, opposite, which glitter dazzlingly white. On the 18th he inspected the clothworks of Messrs. Hägardte, and their garden, and travelled on the 19th through what he calls the noblest land upon earth, Sweden's great granary, a northern Flanders, a grand convexity without mountains, hills, rivers, stones, lakes, woods, and bushes, but a waving cornland such as is rarely seen in Sweden. In 1885, September 7, the 'Times' says, English soil produces more wheat to the acre than any other country, with the single exception of Denmark.' It might have added Skåne, part of ancient Denmark.

Through this delightful region, so novel in appearance to him, Linnæus journeyed on to Trelleborg, on the

<sup>1</sup> Hyllie.

southernmost coast of Sweden. He knew his country now from end to end.<sup>1</sup> Trelleborg was then not so much a town as a gathering of merchants round a market-place. It has now 2,000 inhabitants. From here he went to Skanör on June 22, and Falsterbo, a still smaller town than Skanör, both on a sort of amphibious point of land—half land, half sandbank. In the midst of two clumps of trees are seen the two spires of these ancient towns, once rich and powerful, now mere villages. Falsterbo is the larger now; it has 800 inhabitants, while Skanör has but 400. A local saying is, 'At the time Christ let himself be born, stood Lund and Skanör in fairest growth.' The church of Skanör has a scaled spire, and a crypt under the choir like Lund Cathedral; it is said to be the most ancient church in Skåne. It is deeply imbedded in the sand. It was the Midsummer *Waka*, St. John's Eve; the youths and maidens were assembled in the market-place arranging flowers for the festival; though it rained the whole night through, the rain could not hinder these young people from having their maypole dances, nor the elders from gorging themselves with flummery, the habit of the peasants of Skåne.

'The church door stood open from early dawn till sunset. People came hither from great distances (and formerly much folk from Denmark), laying their money upon the chest. Some came laden with small boxes of coin, sent by those who were too sick to come, and in good faith offered them. This was going on before,

<sup>1</sup> The fishing-village of Smygge is the extreme southerly point of Sweden.

during, and after the service, with no procession or superstitious ceremony before the images. The church obtains on an average about 100 to 300 dollars, silver mint, which are devoted to repairs; otherwise it might fall into decay. The poor people, in times of need, sickness, necessity, or anxiety about relatives out at sea, do this as an *officium pietatis*.'

It was a picturesque sight to see all these Skånskt bondfolk. The women wear the pretty cloth cap, mostly scarlet, with a high crown, that one so often sees worn in Stockholm, chiefly by servants and milkwomen from Skåne; or else a white cloth flowing broadly over the shoulders, kept in place by a band—a sort of diadem or fillet—round the brow.

The May games reminded Linnæus of the Olympic and Pythic games. He had been to Ystad during the day, but returned that same evening to Skanör. He gives a full-page sketch of the elaborate maypole with its yards and shrouds and flags. The youths and maidens assembled in the market-place; the lads bore staves and the girls flowers. They bound together the staves in the form of a high mast, with a cross-piece, and in a few minutes the whole pole was dressed with garlands and flowers which hung down from the projecting points. The maypole thus prepared was one of the most beautiful, and was hoisted amid joyous exclamations. The young people danced round it the whole night, notwithstanding the rain.

The royal fishery of Falsterbo was the chief scene of

experiments on Linnæus's discovery of artificial pearl formation. It is not so stated, but he probably on this journey considered Falsterbo an eligible place for these experiments. The secret of making the pearls, for which a premium of about 500*l.* was awarded to Linnæus, has come by descent into the possession of Mr. Dickson, the great Gothenburg merchant. He has published a pamphlet on the subject. The original MS. 'De Perlarum Artu' is not to be found among the papers that came into the possession of Dr. Smith. The secret, being his own private property, would naturally not be mentioned in his published journal.

*June 25th.*—Linnæus travelled towards Ystad by Klörup, Kampinge, Dybeck, with its outlet, Hartehamn, on the seacoast. 'The land here is in the hands of the peasantry, a well-to-do and thriving population. On every side, as far as the eye can reach, may be seen picturesque old churches and well-built farmhouses embosomed in trees. The soil, when fresh-sown and harrowed rich and dark as that of a market garden, seems far too good to grow corn in.'<sup>1</sup> Fine teams of horses and oxen are seen, and stock of all kinds flourish. The gardens and orchards are protected by hornbeam hedges on the north side only. Leaving this fertile garden, we cross a wild sandy moor, where the lapwing alone builds its nest; for the sheep are too wise to browse where they could get nothing. Each peasant-woman wears a gag across her mouth, such as Queen Dorothea wore in her portrait—de-

<sup>1</sup> H. Marryatt.

stroyed by fire at Fredriksborg—as a protection against the flying sand. Skanör and Falsterbo often suffer from a sandy whirlwind. The roads in Skåne are proverbially bad ; the ground is soft ; stones are scarce, save the errant boulders. About Linnæus's time the governor of the province constructed from Malmö to Ystad so excellent a road that it lasted for fifty years without needing repair. It was formed of small stones. It is said that Macadam took his idea of road-making from this very road.

Linnæus then turned inland to Marswinsholm, a fine estate belonging to Baron Siöblad, grandly built like an old feudal castle. The inscription, dated 1644, says it belonged in Danish times to Otto Marswin, lord of Dybeck, &c. Linnæus's celebrity made him a welcome guest at these fine country seats of the nobility ; the difficulty was to get away from the hospitalities poured upon him, so as to continue his tour. His visits were valued and valuable, since in merely glancing round these domains he was able to offer many suggestions for development and improvement. It seems he was the first to point out the merits for the table of the ortolan,<sup>1</sup> which is frequently met with in Skåne. At that time a ducat (nine shillings) a piece was given for them in France—so says Smith. It reads like tearing himself away when, after dilating on the charms of these places, he says, June 28, 'I sought the mineral springs of Nibbla and Gumarslof.'

<sup>1</sup> *Emberiza Hortulanus*, so called from its partiality to garden hedges.



On the 29th he describes Ystad (on his second visit). It has two churches—one a town church, dating from the thirteenth century, the other a *kloster* or hospital church founded in 1267. Though there were two surgeons in the town, medical science was in a bad way for lack of *Materia Medica*. Divers animals were kept in the surgery (*Apotheke*) occupying the place of drugs. Linnæus soon improved this. The shore also occupied his attention. From the dangerous Sandhammer reef, some seventeen miles east of Ystad, the low coast of Skåne runs east and west for about seventy miles. Ystad is now a town of 7,000 inhabitants.

From Ystad he returned to Lund, then (July 1) to Krageholm, and Kyssegard, and Sofdeborg, a lately-restored palace belonging to Count Piper, surrounded by the sunny parks and shady glades of Sofde forest. Linnæus admires the plasterwork of the great saloon on the ground floor. 'It is a masterpiece,' he says, 'and, though it has stood one hundred years, is as fresh as the first day it was modelled. The subjects are from Scripture and Heroic history; the figures not a bit like plaster, but like beings floating in the air.' He proceeded—it was quite a procession, for a cavalcade of admirers always accompanied him—to Everlof, Håckeberga, and Toppegårde (another seat of Count Piper), and back to Lund again. Thence, leaving that part of the country, having looked into its dyes, its curiosities, and its potentialities, he went to Barsebäck on the Sound, and Landscrona.

Until the railway (round by Eslof Junction) was

made, the easiest way of getting to Landscrona from Lund was by Malmö and Denmark! Even Christian IV., as we see by his journal, among other difficulties could not pass the Ræ Aa (between Landscrona and Helsingborg) on account of the high water. The road by the coast is generally a sandy level, with two rivers to cross. These are bridged now. That Linnæus did not take this opportunity of visiting Denmark is a fair argument that he had been there before. Landscrona now possesses factories of beetroot sugar, and, like all these coast towns of Skåne, thrives by exporting corn.

From here Linnæus crossed by boat to the Swedish island of Hween (Hven), about five English miles off, where Tycho Brahe formerly dwelt at Uranienborg, and where he had his subterranean observatory of Stellerborg. 'Neither rat nor serpent is to be found on this island. It is a very primitive place.' This visit to the old star-gazer's abode at Uranienborg was quite a pious pilgrimage with Linnæus.

Balteberga, a fine estate belonging to the widow of Baron Bennet, next received him. Thence, on July 9, he went to Helsingborg, and copied out carefully the epitaph placed in the church by a daughter of Tycho Brahe to his memory. Thence he looked across on Danish Elsinore. It is a comfort to read of Elsinore without Hamlet's father's ghost being raised. Linnæus never mentions Hamlet, for all his knowledge of Amleth, near Wexio. Here he joined Baron Härlemann's company in a circuit to Tommarp and Ramlösa, and again to

Helsingborg and the promontory of Küllen, once probably an island—one of the most picturesque places in Skåne, extending into the Öresund, the north-west point of the province. Its steep granite hills rise like an amphitheatre. On the highest, 600 feet above the sea, is a lighthouse. This height commands an extensive view, geographically and geologically most interesting. At the base of the hills on the north side is the Trolhålet (witch-hole), a grotto one hundred feet deep.<sup>1</sup>

At Küllen they tasted the *kulla hering* (caller herring?) a sort of bloater 'that of all the Swedish herrings is the fattest and best.' Küllen detained Linnæus some time on account of its geological interest, including the coal-mines of Höganäs, which were worked as early as 1650. The sight of this brought back to his memory the works of Boulton and Watt; but the coal here is inferior to the English. On July 16 he travelled from Wageholm to Engelholm, which is supposed to take its name from the English; though I think it is not the 'Angles' but 'angels' who are meant. Here they had many a peep into the interiors of Halland's cottages, so Dutch in cleanliness and aspect—the quintessence of quaintness. But the province of Halland not being within the commission, they kept as much as possible within the limits of Skåne, skirting its northern border.

They went from Skillinge to Rosioholm, another nobleman's seat; Warno, Gunnerstorp, Steinkohlenbruch, where they get Glaubers salts; and back to

<sup>1</sup> H. Marryatt.

Gunnerstorp, staying at Larkesholm, Baron Lieven's place, 'its gardens curtained in by ancient and enormous trees.' This part of the tour reads like a royal progress, and Linnæus writes pages upon pages—doubtless an epitome of much pleasant talk—of description of riches and curiosities. Then he makes for Christianstad again, where he stays some three or four days, and the tour is over; he has examined Skåne from end to end and most completely. He re-entered Småland by Ljungby, reaching the parish of Stenbrohult on August 3, and revisiting his birthplace on the 6th. Summer seems to have a good deal repaired the ravages of the fire. The parsonage was being rebuilt, and well advanced, soon to be refilled with a wife and busy household; but it was no longer the old home nor the old garden. The works were in progress to receive the pastor, his brother Samuel, and his bride. Carl did what he could to renovate and restore the garden for his brother.

'A brother is a great possession in this world—one of the greatest,' says Carlyle.

His native woods were in their golden decline: the early spring had brought an early autumn. A modern hand must sketch the picture Linnæus saw: 'The leaf had changed but had not fallen; the spiral masses of the dark green juniper effectively contrasted with the rich brown foliage of the beech, varied occasionally by the scarlet leaves of the wild cherry-tree.' The lime-tree of Linnhult was a quivering mass of gold. It seemed so very long ago that Linnæus had seen it

grey, just breaking into the silvery green aspect that the lime-tree wears in spring—and yet it was not three months since that time; but he had travelled so hard, seen so much, attended to so many new impressions since then, that it seemed an age. The golden tree seemed a symbol of the riches Linnæus had bestowed upon his country. ‘It is a gold-mine to me,’ said his brother, the bee-king, on another occasion, ‘it fills my hives with gold.’

A change came over his manner of travelling as Linnæus hastened homewards, not stopping nor diverging to rest at great houses. He travelled by way of Jönköping and Lake Vettern and Motala, across-country, as quick as horse and sail could carry him, to Westerås, eating, as he laughingly said, his breakfast overnight that he might be ready to start the earlier in the morning. He arrived in Upland on August 13, to hear them complain of frosty nights, which had done much damage; but he came home in time to save his rarest and tiniest Indian growths in the Upsala garden from being injured. His thought of these cherished treasures quickened his pace; it was a race for their life, for he knew that without his presence no provision would be made for their preservation. Linnæus at once exerted himself, and prevailed on the university to appoint additional gardeners, an assistant, and a labourer to attend to the new greenhouse in addition to the twenty men before employed, and to allot one hundred extra (?) cartloads of firewood every year for the use of the hothouses.

We, who have no such reason for desperate haste, may linger on the road and enjoy at our ease what is really one of the most charming journeys to be made in South Sweden. The most interesting portion of the Gotha Canal, superior even to the grand engineering works by Trollhätta, lies between Norsholm and Motala. Here I did not follow Linnæus's actual path, for I had travelled before through the pleasant parklike scenery, by Flen, with the lilled river winding through it; the foliage diversified by beech trees feathering among red-lichened rocks, and occasional oak trees, &c. with bracken fronds arabesquing the ground. One seldom sees oaks in Sweden so large as they are here.

Though we in England hear a good deal about the Gotha Canal, at Norrköping no one seems to know much about it. It is like asking at Paddington for a lift to Bristol by the barge. People would hardly understand you. The canal is a company apart; it knows its own internal arrangements, at least it does so at the great termini, Stockholm and Gothenburg; but the Swedish outer world is not interested in them. One must go to Norsholm and join the Gotha Canal there. The train we came in was, of course, waiting there for us. Norsholm is not a town, only a railway-station at the junction of the Motala River with the canal. At Norsholm the most sublime ignorance reigns as to the movements of the boats. The fair maiden at the Kanal Kontor did not gain her post by competitive examination; it was her *beaux yeux* won

it for her. A young man with intelligent expression of face, who spoke English, told us of a 'boot' at 11 o'clock. He then vanished into space, as most people do in the wide landscape of Sweden. 'No; the "boot" comes at twelve,' says someone at the railway-station. We go to the Kanal Kontor to certify. 'Yes, there is a "boot" at twelve,' says another, 'but it is not to-day, nor to-morrow; but *über morgen*' (the day after). Fancy staying at Norsholm till *über morgen*! A week's stay at Swindon Junction would be blissful in comparison. The young woman here says, 'Boat to-morrow morning at five—no, four *f.m.*'<sup>1</sup> 'No,' examining the time-tables again, 'there is, after all, Tuesday, a boat at eleven.' 'But—it is after September 1,' as we pointed out to her, 'when the summer season is over.' Ran back to the station, our train just moving off. 'Stop it! Hi!' It stops at once for us. 'Hi!' we cry, 'there's no boat! Pray send us a boat, or stop the train, or something!' They obligingly stop everything, even the telegraph youth (also with intelligent expression), who is supposed to speak German, who was working his messages. Business waits upon politeness here. Between them all they politely hunt up, or hatch up, a convenient boat for us, and assure us it will come. Though the Swedes are truthful, we fear to believe. A screech in the distance. Their boat-whistles sound most weird. 'I hear a "boot"!' I scream. 'You don't mean it!'

*F.m.*, ante meridiem, 'fearful moment'; *e.m.*, post meridiem, is easier moment'; free interpretation.



shrieks F——, who had begun to sketch the ignorant pretty maiden at the Kanal Kontor as a nixie. Off we pelted in our usual mad, metropolitan, breakneck way. When shall we learn not to hurry so, but to let things wait politely for us? A tall vessel was gliding in. F—— ran on to stop it. There was no crossing the lock! The steamer was in the lock already, and we had, of course, half an hour to wait and—write the memoirs.

This boat belonged to another company. There are many companies, each with its own time-table and code of regulations. The best plan is to sit on the bank and wait till the first boat crosses the scene, then step aboard of her and go on, as you would step into any omnibus in Piccadilly that is going your way. You may have to wait a fortnight, but the likelihood is that one will arrive sooner.

Linnaeus frequently traversed the scenery of Lake Roxen, climbing on foot to the top of what is now a gigantic staircase of fifteen locks, at Berg, but was then a cataract unbridled by the engineer's hand; and then following the Motala River, which the passengers by the present canal look down upon from the lofty height of the huge lock-staircase, set in a green terraced slope lined with avenues—a striking and peculiar scene. The views are beautiful as the steamer glides high-raised above the Motala River winding in the valley, through the long Dutch-like reaches of canal with trees shaking hands across the water, steaming

between rich fields and woods set with gentlemen's houses—a fertile, gentle landscape, very different to most parts of Sweden.

The dinner ration of the sailors on the canal-boats is plentiful and wholesome: beef, a large bowl of potatoes divided among them, fish, rye-bread, and a bowl of milk apiece; all served with forks and fingers. The views increase in beauty as the canal emerges on the clear blue Lake Boren with its fir-clad fringe of peninsulas, after which the canal enters the Motala River, passing the busy factories of Motala Werkstad and the fine country seats lining its banks thence to Motala, a town of 2,000 inhabitants. Here we are on Linnæus's track.

No horse was ready, so Linnæus took a boat at Vadstena, at no great distance from Motala. A fair fresh breeze promised to carry our hero more swiftly homeward if he sailed up the Vettern than if he kept the road. It was chilly; the Celsius thermometer stood at eight. Swallows, gathering together in preparation for migrating southward, skimmed very low on the clear green water of the Motala.<sup>1</sup> The highly sensitive surface of Lake Vettern was rough with white billows cresting the fresh beautiful blue waves, the foam floating off the tall waves in rainbows so long as the sun shone, and the vessel made a wide tack which carried him out, as it did ourselves, among the islets off Vadstena.

<sup>1</sup> The greenness of the Motala River, flowing between the very blue waters of Lakes Boren and Vettern, is remarkable.

Linnæus on landing made his way across-country to Örebro, whence he embarked again on the Hjelmaren Lake for Eskilstuna, now called the Swedish Sheffield. It was then a mere village, though there were a few metal-works in that day, established by a Livonian from Riga, attracted by the fine water-power. At that time there were few of the neat streets that we see now, and factories were well-nigh unknown, except a few saw-mills by the rapids, which have mostly disappeared before a more lucrative industry. The town is clean and quiet, much of the iron-work being executed at the workmen's own cottages. The fine new technical school, built of white stone, is externally clean and quiet also. The church stands sequestered by the shady river banks. It was founded by Eskil, the English archbishop of Lund;<sup>1</sup> hence the town's name Eskilstuna. The church doors are kept open, though guarded by pretty wrought-iron gates, through which one can peep at the elaborate black and white pulpit and general interior of the church. It is prettiest seen in this way. Beyond the pleasant quiet churchyard the river is crossed in several places by bridges of various builds, chiefly primitive forms of suspension-bridge, to the village of the factories, where there is plenty of noise of anvils, saws, and waterfalls.

From here Linnæus took a boat, a gaily beflagged vessel containing a pleasure-party—crowded, of course, with friends bidding farewell to parting friends—and

<sup>1</sup> Appointed by Nicholas Breakspear, Pope Adrian IV.

sailed down the Eskilstunaa for Thorshälla, one of the quaintest and most delightful places in Sweden. It is set nearly in the water, like the lake dwellings of old, and is full of picturesque bits and bridges intermingled with waterfalls and weirs. Some of the houses are built on piles, but most of them stand on rude but solid pedestals of stone, chiefly granite blocks, lichen-grown, in all colours. One walks right through the wooden-built red-painted town in changing from one boat to another, the way being stopped by waterfalls, above which the lofty scaled tower of Thorshälla Church is the centre of many charming pictures. The Swedes are prouder of Eskilstuna, which has of late risen rapidly into prominence, and strongly recommend it to strangers in preference to Thorshälla, which was in Linnæus's time much the more important place, and is unaltered in its aspect. To the artist, however, there is no comparison between the two places. Eskilstuna has points of interest certainly, but it is on the whole a flourishing manufacturing town; while Thorshälla has all the charm and novelty of the real old world of ages long ago about it, grouped in a way to make it unusually interesting even among picturesque places. High, stately, full-sailed vessels glide, seemingly, through the fields, moving westward from Stockholm, saluted by the cheers of the crowd gathered on a Sunday evening. From other directions come smaller boats, carrying crowds of pleasure-seeking passengers from many parts of the Mälar.

Linnæus took again another boat (one is constantly

shifting from boat to boat in these amphibious journeys) and sailed down the pretty winding river Thorshällaa (where there is excellent salmon-trout fishing), and crossed the rough and black Lake Mälar to Westerås; the difficult navigation of this part of the Mälar, which is full of partially covered rocks, being guided by the two tall steeples of Thorshälla and Westerås, whose tall obelisk spire, three hundred and ten feet high, forms a capital landmark to steer by, being visible as far as the entrance to the Thorshälla River. A relay of good horses soon took him to Upsala.

On Linnæus's return home he continued his academical occupations, and towards the end of the year was invested with the rectorship of the university, which office had been held by another person provisionally during his absence. In 1750, having administered the office of rector with great attention, and at the same time given private instructions, he, in consequence of his great exertions, and the spring setting in, had a very painful attack of gout, which obliged him at the expiration of his rectorship to keep to his bed.<sup>1</sup> He now wrote his 'Skåne Journey' for publication; but it was not printed till two years afterwards. His correspondents had every year requested him to publish his 'Philosophia Botanica,' in order that the terms and principles of his system might be explained in one work. Ellis writes on Oct. 30, 'I am glad to hear you are safe returned from your expedition into Scania.'

<sup>1</sup> Diary.

## CHAPTER XXI.

## THE KNIGHT OF THE POLAR STAR.

Above may the Soul spread wing, spurn body and sense beneath her;  
 Below she must condescend to plodding unbuoyed by æther.  
 In heaven I yearn for knowledge, account all else inanity;  
 On earth I confess an itch for the praise of fools—that's Vanity.

*Solomon and Balkis, R. BROWNING.*

LINNÆUS has been as a dried flower to this generation—a dry and dusty thing, with colour lost and form flattened, spoiled. In our meagre idea of his system—as merely a scaffold, now removed to show the solidity of some grand structure behind it—we have neglected him who was really the architect of the beautiful temple of natural history that we respect but care very little about. It was he who first planned—on paper for the world, and in practice for his own country—that science of insentient things, as well as of all the exquisite lesser life around us, and the application of that science to the well-being of man, that has since been worked out on his plan and foundation by men able to carry forward his ideas.

The Polar Star was essentially his emblem. He guided the way.

Into dusty drawers and tomes a young generation

cannot be expected to look—as why should it?—but a picture of the splendid autumn of this great man's life may have its attractions, nevertheless, to those who care for the story of life's work and its rewards, and not only for rhapsodies on misery quenched in love, or *vice versâ*. Linnæus, from 1750 onwards, excited and directed the prevalent taste for natural history; heading a great movement, not national merely, but European, and indeed of universal application.

‘To Linnæus belongs the renown of having been the only individual who arranged and described all the animals, plants, and minerals known in his time. And the fact of his having accomplished this herculean task is sufficient to prove his extraordinary genius and energy, his excellent judgment, and unwearied zeal.’

His life is a turning-point in our knowledge; hitherto all learning had been veiled in a cloud of words, in the dead languages, which had long been used for the purpose of concealing the thoughts of learned men. Linnæus was the Luther of science; he revived the languages, raised them to life (galvanised them, if you will, though I say he gave them a new lease) for the purpose of clearing up all science to all the world by the use of one common tongue; he created, in fact, a new language out of a dead one; the phoenix of scientific terminology, with its uses and universal application, has arisen from the ashes of the ancient tongues. ‘His unrivalled invention of nomenclature, which came from his hands, as it were, *perfect*, will remain of undiminished value so long as



science exists; while the simplicity of those rules by which he arranged all the productions of nature then known cannot be too closely imitated, however different may be the series in which these productions are disposed. He may be said to have created a language peculiar to natural history, for the sole expression of the ideas pertaining to it; a language which all, even his greatest opponents, are constrained to adopt, if they desire to be understood. This, and the clear and lucid manner in which he arranged his materials, gave a facility to the study of natural history perfectly delightful, and introduced a precision it had never before possessed.' It was like the application of steam-power to locomotion. 'He wisely refrained from overburdening his definitions with unessential details and characters. Simplicity was his ruling passion; and it would be well for modern science if this principle had been imbibed by his successors.'<sup>1</sup> And yet his aphoristic and figurative style has been characterised as a defect by a Frenchman,<sup>2</sup> while by others he has been called too methodical and dry.

'The omission of the verb in his descriptions was an innovation, and gave an abruptness to his language which was foreign to the writing of his day; but it probably, by its succinctness, added to the popularity of his works.'<sup>3</sup>

'If he did not, as his detractors aver, widely extend the bounds of knowledge, he set in fair order the

<sup>1</sup> Swainson.<sup>2</sup> A. L. Fée.<sup>3</sup> Jackson.

treasures we possessed, freed them from the dusty wrappings of the monkish scholiasts, and the Abracadabrists, and, what is of far more consequence, sought in each thing the use for which it was created.' <sup>1</sup>

The work of Linnæus, which his rival Haller <sup>2</sup> calls his 'maximum opus et æternum,' appeared in 1753. It was the 'Species Plantarum,' two volumes octavo, containing a description of every known plant; a description independent of any system, as being founded on the essential character of each species. <sup>3</sup>

The two volumes of the 'Species Plantarum' were completed towards the autumn of 1753. In the first edition he describes 7,300 species of plants. <sup>4</sup>

'Besides the importance of this work as a complete arrangement and definition, with all necessary indication of synonyms, of every plant of which its author had any satisfactory knowledge, it is ever memorable for the adaptation of specific, or, as they were at first called, trivial names. This contrivance, which Linnæus first used in his "Pan Suecicus," a dissertation printed in 1749' [a germ unrecognised as yet by himself], 'extended to minerals in his "Museum Tessinianum," and subsequently to all the departments of zoology, has perhaps rendered his works more popular than any one of their merits besides. His specific differences were intended to be used as names; but their unavoidable length rendering this impracticable, and

<sup>1</sup> Whewell.

<sup>2</sup> They were joint kings of science.

<sup>3</sup> The second edition, likewise in two volumes, was printed in 1769.

<sup>4</sup> Diary.

the application of numerical figures to each species, in Haller's manner, being still more burdensome to the memory, all natural science would have been ruined for want of a common language, were it not for this simple invention.'<sup>1</sup> [The simplest inventions are generally the happiest.] 'By this means we speak of every natural production in two words—its generic and its specific name. No ambiguous comparisons or references are wanted, no presupposition of anything already known. The distinguishing character of each object is mostly stamped in its name, and if this perfection of art cannot always be attained, the memory is assisted, often very ingeniously, with collateral information, indicating the colour, the habit, or the qualities of the object of our examination.'<sup>2</sup> The philosophical tribe of naturalists—for so they are called by themselves and their admirers—do not, therefore, depreciate Linnæus when they call him a nomenclator. On the contrary, they celebrate him for a merit which no other person has attained, and without which their own discoveries and remarks, of whatever value, would not be understood. Whatever may have been thought of the Linnæan trivial names at their first appearance, they are now in universal use,

<sup>1</sup> Smith.

<sup>2</sup> 'To us modern systematic botanists Linnæus's classification is now chiefly of historical interest, but the great naturalist has left his permanent stamp on science by the invention of his system of *binomial nomenclature*. This was first fully shown in the "*Species Plantarum*," 1753, and, I suppose, has done more towards a knowledge of nature than anything else. But it has no sort of connection with the sexual system of classification.'—H. TRIMEN.

and their principle has been with the greatest advantage extended to chemistry, of which the celebrated Bergman, the friend of Linnæus, originally set the example.'

'Mr. Lyonet complained of the number of new names that Linnæus has introduced. This is absurd. He has introduced new names only because he has described new objects; as to old names, every intelligent naturalist knows Linnæus has been rather too cautious of changing them. It would, perhaps, have been better could he early have foreseen his extensive influence and have reformed many things which, from a deference to the opinion of others, he suffered to remain.'<sup>1</sup> We do not now find it inconvenient that the dahlia should be called from Dahl, nor the fuchsia from Fuchs. In old-fashioned country places the original slender red fuchsia is still picturesquely called the 'lady's eardrop'; but this would never do for a scientific or a universal name—it is too long, and difficult to translate; besides, now that earrings are worn short, or merely as a bead stuck on the lobe, no one knows what ladies' eardrops are. Red wallflowers are in like manner called 'bloody warriors.' Names that convey a poetical figure or a sentiment, as mignonette, the passion-flower, love-lies-a-bleeding, the sensitive plant, or forget-me-not, are very sweet as applied to flowers; but these need that all florists should likewise be poets.

The Earl of Bute, writing to Collinson, says, 'I

<sup>1</sup> Smith.

cannot forgive him' [Dr. Linnæus] 'the number of barbarous Swedish names, for the sake of which he flings away all those fabricated in this country; witness the meadia, the azalea, that is become a calmuck, or *kalmia*. I own I am surprised to see all Europe suffer these impertinences. In a few years more the Linnæan botany will be a good dictionary of Swedish proper names.'

But does not this show that all Europe agreed that Linnæus was the happiest confectioner of new names for all these new wonders that had lately come like a deluge of marvels upon a wondering world? The Earl of Bute was blind to the marked difference between the azalea and the *kalmia* flowers. Smith thus comments on the history of the genera *Azalea* and *Kalmia*. 'The former was not fabricated in this country, but established by Linnæus, 1737, in his 'Flora Lapponica,' and still remains undisturbed. *Kalmia*, class and order *Decandria Monogynia*; nat. ord. *Bicornes* Linn., *Rhododendra*, Juss.: *Kalmia latifolia*.'

Collinson writes to Linnæus, 'Dr. Hill criticises your method, but not like the foul-mouthed Germans. He treats you, like an Englishman, with decency and good manners; and although we cannot agree in all points—for no system can be perfect—yet we honour and esteem you for spreading arts and science and increasing knowledge.'

It is pleasant to see how highly Linnæus was thought of in England, and instructive to compare it

with Germany, where the best of them, viz. Haller, was more jealous than fervently admiring.<sup>1</sup>

His was no ordinary dictionary-making; it was not even a furbishing up of old things. Linnæus had new things to deal with, and 'science and organisation must have their vocabulary.' 'There are new things,' says Carlyle, 'and as yet no new dialect for them.' Was he, then, only a big-word-monger? Oh, no! He taught his pupils the art of learning natural history, having first invented the science itself, and been the historian of nature. 'After Linnæus, by his invention of generic and specific names, had made classification possible, and by his own enormous labours had shown how much could be done when once a method was established, the science' [of natural history] 'has grown rapidly enough.'<sup>2</sup>

Although Linnæus spoke Latin with facility, and used it perfectly aphoristically, he was no purist in the language. He would repeat passages from Ovid and Virgil with pleasure; but he was no deep grammarian. 'I would rather have three slaps from Priscian than one from nature,' he would say. Yet that he fully entered into the spirit of the magnificent language that he wielded with a master-hand is proved by this, that 'his system may be considered as the bible of nature, the great nomenclature of natural science, where every

<sup>1</sup> Linnæus's works on *Materia Medica* were held by Haller among his most valuable. Was this affectation, jealousy, or an error of judgment? or has the world underrated this part of Linnæus's work?

<sup>2</sup> Jardine.

genuine character is a family portraiture and every specific description a miniature.<sup>1</sup>

‘The trivial name was expressive, if possible, of some essential distinction of the species, or sometimes of the name of the person by whom the plant was discovered, or sometimes of the country to which it appears to be peculiar. He frequently retains the old generic name as the trivial epithet.’<sup>2</sup>

‘Trivial names had never been heard of before. Affixing them to all vegetables was like putting a clapper to a bell. Botany acquired new life. Names could now not only be easily remembered, but also spoken and written with ease; whereas, before, it was necessary to have recourse to definitions. Hence botany acquired an entirely new and natural form.’<sup>3</sup>

It is not by puzzling people that one gives them light. The *ignis fatuus* bewilders. The Polar Star illumines the way. Ignorance was what Linnæus fought against, by placing the lantern of fact to light the path, whereby we may avoid stumbling-blocks we cannot remove. ‘Everything he wrote was written briefly and nervously. He read the earth, minerals, vegetables, and animals as in a book. He was one of the greatest observers we have had, and therefore to be considered as an author, not as a compiler. Few possess his penetrating genius.’<sup>4</sup>

It is natural that at this time of his life the ‘Species Plantarum’ should have been put forth as the result

<sup>1</sup> Turton.

<sup>2</sup> *Pan and Pandora*.

<sup>3</sup> Turton.

<sup>4</sup> *Ibid*.



of his experience. 'I get less reflective as I get older' is a universal thought of attentive people, put into words by Haydon the painter. 'In early life everything, being new, excites thought. As nothing is new when a man is thirty-five, one thinks less.' Then is the time to tabulate or formalise the results of thought.

The published works of Linnæus amount to more than 180, including the 'Amœnitates,' for which he provided the material and revised them for the press.<sup>1</sup>

About 1751 Linnæus published his 'Philosophia Botanica.' In this work 'it is difficult to determine whether we ought to admire the genius of the author most in his inventive power, or in the exquisite scientific arrangement which he has given to the whole; the two circumstances together certainly render it a most extraordinary and pre-eminent performance. The "Introduction to Botany" by James Lee<sup>2</sup> may be looked on as a sort of epitome of this work.' It has been edited by many foreigners. He likewise began to publish a new edition of the 'Systema Naturæ.' The tenth edition of this book, published in 1768, translated by Turton, in seven large volumes, Linnæus characterises as a 'summary of everything I have seen in this world.' His 'Dictionary of Nature' was at least as great a work as Johnson's dictionary of our language; but, whether author, compiler, or tabulist, the fame of Linnæus does not rest upon his books. These were not his chief works,

<sup>1</sup> Jackson.

<sup>2</sup> This has passed through six English editions.

of which they were only the records. Linnæus thoroughly devoted himself to Sweden, and to showing what could be done and grown there, as his father in his smaller way had done before him. This is why he is a great man, and why I write his life and admire him. Like Queen Elizabeth, he had his weaknesses; like Bacon also: most people have their weaknesses (only some Germans and a few great newspaper editors being supposed exempt), and these in the great are made more patent by contrast with their greatness.

He made many mistakes, but the honour due to him for having first enunciated the true principles for defining genera and species, and his uniform use of 'trivial' names, will last as long as biology itself endures. He found biology a chaos and left it a cosmos.<sup>1</sup>

'The science of natural history has now become so vast that no man can ever take the lead again as a universal naturalist.'

The '*Systema Naturæ*' had already gone through nine editions in different countries. The first volume of the tenth edition by the author (Linnæus) was published in 1758. The second volume, which came out the following year, was an epitome of the vegetable kingdom. This important work appeared, still more enlarged, in a twelfth edition in 1766, in the lifetime of its author. To this the mineral kingdom was added in a third volume on the same plan with the first. We can readily pardon the self-complacency of its author when, in the diary

<sup>1</sup> Jackson.

compiled for the use of his friend Menander, he calls the 'Systema Naturæ' 'a work to which natural history never had a fellow.' This ingenuous self-applause of such large performance is prepossessing in its childlike innocent vanity ; the work and the author's artless opinion of it both secure our sympathy. As Arnold (of Rugby) fairly says of his own writings, 'I do not consider it to be arrogance to assume that I know more of a particular subject, which I have studied from a child, than those do who notoriously do not study it at all.' It is only the vanity of emptiness that is repellent.

Vanity was the foible of the eighteenth century. Few were learned, and the learned did not often meet. Moderns have less difficulty in finding their level. Now all are learned, even the babies, and art has made all knowledge beautiful—as beautiful as we care to have it.

Linnæus had, as was natural, that inherent 'belief in his own powers, the manifestations of which it is difficult to distinguish from the workings of vanity.' What seemed self-assertion was simple statement of fact. The character of the Swedes is transparent as their atmosphere. 'Propria laus sordet,' ingenuously says Linnæus in writing about his own memoirs from Upsala, November 19, 1769, to his early friend Archbishop Menander, 'and self-love will here and there show itself.' Linnæus was altogether a man of great simplicity, telling his feeling with the openness of a child. And, indeed, one smiles at the artless vanity of the diary. The close of it, where the botanist's name

is changed to Von Linné, is most amusing in its simplicity. It seems, however, to have been written from rough notes by different loving hands—probably those of favourite pupils. ‘The greater part of the handwriting of Linnæus’s Swedish MSS. is Dr. Lindwall’s, who was a pupil of Linnæus; but different hands are discoverable, and abrupt transitions from the third person to the first.’<sup>1</sup> Linnæus needed a secretary to conduct his large foreign correspondence; indeed he had the faculty of being able to employ three secretaries at once on different topics, and it would seem that the secretary wrote the diary, which is by no means a journal or daily register.

But whatever he or others thought about it, the fact remains that he was a great and good man. It was natural to his temperament to revel in fame, that oxygen of the metaphysical atmosphere.

‘And for this fame &c., I know a little of her worth. She is a fact; it is not wise to ignore her, but at least to walk once round her, and see her back as well as her front. A man feels in himself the love of praise. It is a universal human faculty. Carlyle nicknames it the sixth sense. Who made it? Why has God put His love of praise into the heart of every child which is born into the world, and entwined it into the holiest filial and family affections, as the earliest mainspring of good actions?’<sup>2</sup>

That the world appreciated him is proved by the

<sup>1</sup> Smith.

<sup>2</sup> Kingsley.

fact that the number of students in Upsala University was doubled and trebled, and visitors came there from all parts. People do not go so far as Sweden to see a man unless they admire him. 'By his force of character he shifted the scientific centre of gravity to a small town in Sweden.'<sup>1</sup> Presents and specimens poured in upon him from all quarters. Kings and queens were eager for his society. When the King of Spain sent out a botanic expedition to South America, orders were given to collect specimens for the Spanish court, the King of France, the Queen of Sweden and Linnæus. The King of Spain made him handsome proposals to attach himself to the court of Madrid. He offered him nobility, the free use of his religion, and a splendid botanical appointment. This proposal was conveyed to him in a very polite letter by the Duke of Grimaldi, then Prime Minister of Spain. Linnæus answered the King of Spain's offers like a true patriot—'If he had any merits they were due to his own country.' His pupil Loeffling (born 1729) obtained through the recommendation of Linnæus the appointment of botanist to the King of Spain, in which capacity he explored the botanical treasures of South America, where he died February 22, 1756.

In 1752 (on the king's birthday) he made a speech: 'I am happier than a king of Persia. You know, fathers and fellow-citizens of this academy, that this garden is my Rhodus, or rather my Elysium. Here I possess all

<sup>1</sup> Jackson.

the spoils of the East and the West that I wish for, and which, in my belief, are far more precious than the silken garments of the Babylonians and the porcelain vases of the Chinese. Here I receive and convey instruction.'

Linnæus's next greatest work was to form a race of students to carry on his labours. He hoped his own son would succeed him in his office and in the care of the Upsala garden, and he diligently educated him to this end. But besides his own children and especial pupils he was educating the public. He had been labouring for years among the students of his own beloved university, enlarging the borders of his work by an immense correspondence. He now set the axle of this diverging circle in his own family. 'It is quite right that the schoolmasters should have the grounding and disciplining; but the father who can finish his boy's education, and teach him something of life besides, ought to be very thankful.'

His eldest boy, Carl, was now (1751) ten years old, and he was eldest of four children.<sup>1</sup> Linnæus was watching Carl's growth with most tender parental interest, encouraging in all ways a boy's natural love of natural science.

'Like all persons of fine faculties, he carried the faculties with him into the smallest things.'<sup>2</sup> For the

<sup>1</sup> A second son, Johan, was born April 7, 1754, and his youngest child, Sophia, in 1757; making altogether a family of six children.

<sup>2</sup> J. S. Mill.

instruction and entertainment of his family he made the natural clock, the famous dial of flowers, which is one of the subjects which has clung about the popular books on natural history, and kept Linnæus's name fragrant to our generation. Mrs. Hemans's poem on this theme was popular long after her universal popularity had subsided.

THE DIAL OF FLOWERS.

'Twas a lovely thought to mark the hours,  
As they floated in light away,  
By the opening and the folding flowers,  
That laugh to the summer's day.  
Thus had each moment its own rich hue,  
And its graceful cup and bell,  
In whose coloured vase might sleep the dew,  
Like a pearl in an ocean-shell.  
To such sweet signs might the time have flow'd  
In a golden current on,  
Ere from the garden, man's first abode,  
The glorious guests were gone.  
So might the days have been brightly told—  
Those days of song and dreams—  
When shepherds gather'd their flocks of old  
By the blue Arcadian streams.  
So in those isles of delight, that rest  
Far off in a breezeless main,  
Which many a bark, with a weary quest,  
Has sought, but still in vain.  
Yet is not life, in its real flight,  
Mark'd thus—even thus—on earth,  
By the closing of one hope's delight,  
And another's gentle birth?  
Oh! let us live, so that flower by flower,  
Shutting in turn may leave  
A lingerer still for the sunset hour,  
A charm for the shaded eve.—F. D. HEMANS.



The diary mentions: 'Horologium Floræ.' To discover the time of day by the opening and closing of flowers, from morn till eve, also the invention of Linnæus, will be of agreeable use to the world.'

Common names of flowers are sometimes applied from the hour of their closing or expanding, as 'Four o'clock,' 'Twelve o'clock,' &c.

The notion tickled the English people vastly as it got into the popular books. Even I remember, when a child, being encouraged to make a Linnæan clock, with a stick in the centre as a sundial, in my tiny garden. I found such dials as difficult to keep in order as Charles V. found his family of clocks at Yuste.

But whether the folding of the pimpernel quite early, and other plants at stated hours, be really capable of being formed into a clock, which has always (after divers experiments) seemed more of a fancy than a certainty, there still remains the poetical fact of the influence of night on many flowers, some blooming, some putting forth their fragrance only at night for the unsleeping angels to enjoy.

Her eyes like marigolds had sheathed their light,  
And canopied in darkness lay  
Till they might open to adorn the day.—SHAKESPEARE.

Among a series of rich exotic flower paintings in their phases, done at Bermuda by a friend of my own, a most interesting one was the 'Progress of the Night-blooming Cereus,' with its lovely blossom in bud at 6 P.M., open at 10, glorious at midnight, at 2 A.M. drooping

like a girl who has danced all the evening at a ball; by four o'clock it is completely withered. 'I sat up all night to paint it,' said Lady S——, who, like Linnæus, was not merely a scientific botanist, a Dryasdust of the museums.

Then, again, does Linnæus's floral clock apply to the Swedish long day, or to ours?

'The flowers of suecory open at 8 P.M., and close at 4 P.M.; those of salsafy<sup>1</sup> close about midday. The following are a few of Linnæus's horological flowers, with their hours of opening.

	A.M.	A.M.
<i>Ipomœa Nil</i> , Blue Convolvulus of India . . .	3	to 4
<i>Tragopogon pratense</i> , Goat's Beard . . .	4	„ 5
<i>Papaver nudicaule</i> , Yellow Mountain Poppy . . .	5	
<i>Hypochæris maculata</i> , Cat's Ear . . .	6	
Various species of <i>Sonchus</i> and <i>Hieracium</i> , Sow-		
thistle and Hawkweed . . .	6	„ 7
<i>Lactuca sativa</i> , Lettuce . . .	7	
<i>Specularia speculum</i> , Venus' Looking-glass . . .	} 7	„ 8
<i>Calendula pluvialis</i> , Marigold . . .		
<i>Anagallis arvensis</i> , Red Pimpernel . . .	8	
<i>Nolana prostrata</i> . . .	8	„ 9
<i>Calendula arvensis</i> , Field Marigold . . .	9	
<i>Arenaria rubra</i> , Sandwort . . .	9	„ 10
<i>Mesembryanthemum nodiflorum</i> . . .	10	„ 11
<i>Ornithogalum umbellatum</i> , Dame d'Onze Heures		
(Star of Bethlehem) . . .	11	
Various <i>Ficoides</i> plants, Mesembryanthemums,		
&c. . . . .	12	
	P.M.	P.M.
<i>Scilla pomeridiana</i> , Squill . . .	2	
<i>Silene noctiflora</i> , Night-flowering Catchfly . . .	5	„ 6
<i>Oenothera biennis</i> , Evening Primrose . . .	6	
<i>Mirabilis Jalapa</i> , Marvel of Peru ('four-o'clock		
flower') expands at Upsala at . . .	6	„ 7
<i>Cereus grandiflorus</i> , Night-blowing Cereus . . .	7	„ 8

<sup>1</sup> *Tragopogon porrifolius*.

The periods do not seem to be always so regular as Linnæus marked them at Upsala. Plants which expand their flowers in the evening, as some species of *Hesperis*, *Pelargonium*, &c., were called by Linnæus *Plantæ tristes* on that account.<sup>1</sup>

Mitchell writes (September 1748): 'We are anxious to see a fuller exposition of your botanical clock, which cannot but be curious and useful.'

1748.—Collinson, who always kept Linnæus in order, and told him home truths, writes: 'But pray consider what will become of the clockmakers if you can find out vegetable dials. Next, I am afraid you will be spoiled for a gardener, you will grow so rich with the breeding of Oriental pearls.'

Linnæus was always carrying on experiments; but not till 1762 did he make any money by his discovery of the way to breed pearls in the river Mussel, when the Diet<sup>2</sup> gave him upwards of 520*l.* sterling for what seems to have been the least valuable of his discoveries—the artificial generation of pearls within their shells. They are pearls certainly, but knobs of chalk would be nearly as beautiful.

More important than these things was the rural calendar he formed for the regulation of the labours of husbandry, according to the appearance of plants at stated intervals.<sup>3</sup> This marks the months the flowers appear in. Linnæus kept many climatic registers. The maximum

<sup>1</sup> Balfour.

<sup>2</sup> Stoevers.

<sup>3</sup> *Calendarium Floræ*, edited by Berger of Upsal, date 1756.

of heat, recorded by him at Upsala, was on July 3, 1747, at a quarter-past three in the afternoon, when Celsius's thermometer stood at  $30^{\circ}$  above 0. The greatest degree of cold was  $28^{\circ}$  below 0 in the night of January 25, 1740. From seven years' observations on the leafing of the oak, it was found never to appear before May 6 (Old Style) or to be retarded beyond May 22.<sup>1</sup>

The British Museum copy of the 'Calendarium Floræ' is the second of a collection of tracts in Latin, Swedish, &c. This tract is interleaved with blank pages, on which additions are written by Dr. Solander. In the same volume is (tract 15) Linnæus's 'Somnus Plantarum,' the identical copy sent to press by the author for the 'Amœnitates': the additions are in his own handwriting, with a specimen plate showing the different arrangements of the folded leaves of plants in sleep.

The thought of this was brought more fully home to him some years later than the making of the Floral Clock, when the seed of the *Lotus ornithopodioides* sent to him by Professor des Sauvages from Montpellier (1754) grew and bore two flowers. One evening, when he went to admire them in the hothouse, they were not to be found. A fresh pair of blossoms came out, and these were again lost, to his great vexation. Neither he nor the gardener could discover them, and could only conjecture a thief. They were folded up asleep, as he discovered in one of his nocturnal perambulations with a

<sup>1</sup> Smith.

lantern; or rather he re-awakened them, for the similitude which plants bear to animals was partially the basis of his system. Linnæus was the father of comparative physiology. This discovery awakened a new train of ideas, a glimpse into Nature's most secret operations. The sleep of plants is regular like that of animals. 'Though,' as Balfour says, 'what has been called by Linnæus *the sleep of plants* is the change produced on leaves by the absence of light, it is by no means analogous to the sleep of animals. During darkness some are slightly twisted, and hang down; others, such as pinnate and ternate leaves, have the leaflets folded together, and frequently the common petiole depressed. The youngest leaflets first exhibit these changes, and when the plants become old, and their tissues hardened, their irritability is often much diminished, as in the oxalis.' The leaves of many plants follow the sun in his daily course—clover, for instance. How Linnæus must have enjoyed the description of the slender iris, abundant on the Morocco coast (*I. Sisyrhynchium* of Linnæus), whose delicate flowers last only a few hours, opening one at a time on successive days, appearing about midday, and withering in the afternoon.<sup>1</sup>

In his 'Pan and Pandora,' dated about this time, Linnæus set forth what vegetable every animal and insect eats. Few persons besides Ray, he says, have considered plants in their rural œconomy.

The King of Sweden commenced in 1751 a natural-

<sup>1</sup> Sir J. Hooker.

history collection at his palace of Ulrichsdal,<sup>1</sup> and Queen Louisa Ulrica, styled by Stoeve in his consummate manner 'the enthroned Minerva of the Swedish sciences,' was forming a still more important museum of shells and insects at her favourite summer palace of Drottningholm.<sup>2</sup> At both of these places the services of Linnæus were in great request. Drottningholm was within a few hours' sail down Lake Mälär from his own house at Upsala.

These great people met on equal terms; if Adolf Frideric was *Dei gratia* King of the Swedes, Goths, and Vandals, Lord in Norway, &c., Linnæus was ruler of the empire of Natural History and sovereign of the kingdom of Botany. His lifelong study was his warrant of universal dominion. 'Their Majesties permitted Linnæus to be in their private company the whole day as if he had belonged to the Court, when the conversation turned wholly on natural history.'<sup>3</sup> The Court enjoyed the freshness of his mind.

He speaks<sup>4</sup> of receiving the commands of his gracious sovereign to inspect his collections at Ulrichsdal. He was obliged to be a courtier, he says, contrary to his inclination; principally, perhaps, because he was now commencing a greater work, indeed his finest trophy—the 'Species Plantarum.' But he took this opportunity to push the interests of science with royalty.

<sup>1</sup> In his chronological table drawn up for his memoirs, Linnæus says, '1751, Described the Queen's museum at Drottningholm; 1753, Described the King's museum at Ulrichsdal.'

<sup>2</sup> Queen's Island.

<sup>3</sup> Diary.

<sup>4</sup> Ibid. 1752.

Köhler had been proposing to travel for Linnæus to make collections at the Cape of Good Hope, and he had been refused permission by the Dutch Government.

‘Who would have thought,’ says Linnæus indignantly, ‘that, as the sciences flourished so much in Holland for the last fifty years, this country should be so illiberal as to refuse a person leave to travel at his own expense, in order to do a service alike to himself and the public, by discovering the wonders of the creation!’ He requested the queen’s good offices in this matter. The queen listened very graciously to any recommendation or petition of Linnæus in the service of science, as we have seen her redeeming the papers and collections of Hasselquist. It seems her intercession failed; as the diary states, ‘Linnæus had actually obtained a travelling exhibition for one of his pupils, through the interest of the Queen of Sweden, to go to the Cape of Good Hope—Dr. M. Köhler, who, however, notwithstanding an application had been made in his favour through the ambassador at the Hague, was not permitted by the Dutch Government to execute the plan, though its exclusive object was the advancement of science. Köhler went to Italy instead.’

The king caused everything to be shown to Linnæus, that he might describe it from his own observation; like Alexander the Great ordered all the most curious animals that could be procured to pass before Aristotle that he might characterise them. He was in every respect politely treated as a visitor to his royal mistress;



nor were his services accepted without suitable returns of royal munificence.<sup>1</sup> He was allowed even to smoke in the royal presence that he might be the more at his ease; and the queen constantly desired him to ask for whatever he required, and pressed him to ask her for anything he wished. 'Only a pottle of wild strawberries,' he requested, when, one day in the summer of 1751, he had a relapse of his gout and came to the palace with a pale and distorted countenance. The queen sent for them immediately. They had to be sought for and gathered, for such homely fruits are not grown in queens' gardens. Next day her Majesty saw him in her museum of natural curiosities full of spirits and perfectly recovered.

'During the dog-days Linnæus, as usual, instead of drinking mineral waters, ate wood strawberries, and found himself very well in consequence.'<sup>2</sup> Three years afterwards he again had fits of the gout, but not so violently: he always conquered their virulence by strawberries.

Queen Louisa Ulrica, a very interesting woman, and, like her brother Fritz, 'of the royalest volition,' she also, like her brother Frederick the Great, maintained a high intellectual tone at her court. Linnæus was a pleasanter guest than Voltaire, though he too wrote on botany, being a universal genius, and one of the three leading spirits of the encyclopædic age. Linnæus, Johnson, and Voltaire were these three black graces. Men were every-

<sup>1</sup> Pulteney.

<sup>2</sup> Diary, 1753.

where seeking truth—a reaction from the fallacies of glory which stamp the whole age of Louis XIV.

An intellectual queen was no phenomenon in Sweden. Louisa Ulrica tried to do in the line of natural history as much as Christina did in classical study. Her letters to the Queen of Prussia teem with remarks, projects, and plans, discussions on painters, and other acquisitions.<sup>1</sup> She writes, ‘I expect Lundberg from France, who shall paint the prince’—Lundberg, called ‘*le roi des pastels*,’ who, I suspect, also painted the portraits of Linnæus’s children which are now at Hammarby.

Upon his arrival the queen writes, ‘Nous avons fait acquisition ici d’un des plus fameux peintres pour les portraits en pastel.’ The prince to be painted was Gustav, Crown Prince, born 1746. The other royal children were Carl, born 1748; Friderich Adolph, 1750; and Sophie Albertine, 1753. These young people acted English plays; among them that favourite of a former generation, ‘The Earl of Warwick.’ The court was not altogether dryly learned, but lively with a simple and innocent gaiety. The King Adolf Frideric looked benevolent, said one of his pages, even when his back was turned.<sup>2</sup> This made it a pleasant sojourn, and court life a beneficial change to our too hard-working Linnæus, who

<sup>1</sup> H. Marryatt.

<sup>2</sup> His coronation medal shows that he had a good profile. On another medal, where he and the queen are side by side, he is much handsomer but less animated than his wife. This medal has the silver mines on the reverse.

now headed a band of elegant beings—princesses, pages, and Court ladies—in botanising expeditions to the enchanting forest recesses on the borders of the Mälär Lake.

‘Where there are crowned heads,’ says Disraeli, ‘there are always some charming women.’ And again, ‘Excursions are enchanting, especially with princesses for your companions, bright and accomplished.’ And in company with this queen, herself so interested, Linnaeus found science itself doubly interesting. Carlyle speaks thus, in jerky style, of her in later years, when on a visit to her brother:—

‘The Queen of Sweden loved her old man’ [Adolf Frideric] ‘and her dowager revenues, &c. All went right enough. She had two sons.<sup>1</sup> She was a shining phenomenon, fond especially of literary people—Frederick II. was fond of her. He says, “I beheld her as if raised from the dead to me; for an absence of twenty-eight years in the short space of our duration is almost equivalent to death.” She revisited her birthplace December 1771 to August 1772. Queen’ [Louise] ‘Ulrique—a solid and ingenuous character (in childhood a favourite of her father’s, so rational, truthful, and of silent staid ways). She was pleasant and pleased during these eight months.’

Busching says, ‘She took me by the hand and led me to a window’ [as was her custom with guests whom she judged to be worth questioning and talking to], ‘and so placed herself in a corner there that I came to

<sup>1</sup> We know of three.

stand close before her. The queen was more than once informed that dinner was on the table and getting cold.' Busching could not edge in what he wanted to say. 'She asked him, "Do you think it advisable to enlighten the lower classes?" Two sides being shown, she agreed that it was advisable to give them useful enlightenment.'

But to return to her younger days. 'I pass the summer at Drottningholm,' writes the queen, 'which is not only fine, but the most charming palace in Europe.' She talks of her newly-built temple of 'Amen' (Hymen).<sup>1</sup>

Here stands the celebrated *faïence* vase from the Alhambra. How it came here no one knows. Could the King of Spain have sent it for Louisa Ulrica's collection as a bribe for exchange of Linnæus?

Linnæus often went to Drottningholm. The summer vacation at Upsala lasts three months, and the winter one six weeks. In these weeks of leisure Linnæus used to go to Ulrichsdal and Drottningholm. He would very likely often have visited the latter palace on returning from his lectures at the Board of Mines at Stockholm, taking his boat from the Riddarholm, where the gulls at noon fly about the sterns of the vessels, cackling like a lot of live-packed poultry. It is a delightful excursion on a June day sailing to Drottningholm, with sails glancing in the breezy sunshine, among the changeful views of lake and promontory on the Mälar, bordered with pine-fringed rock smoothed by glacier action, and midway betwixt the pine and stone the golden buds of

<sup>1</sup> Marryatt.



LINNEUS AT DROTNINGHOLM



oak half hidden by the fruit-blossom, still out now in early June; moving out among still lovelier views ever opening up and fading off; enlivened by ships gliding in and out between islands, as if moving from behind pieces of painted scenery; the whole scene freshened by a strong but not a cold breeze.

Here is Drottningholm. A beautifully situated palace! A white comfortable building, of Renaissance domestic style, approached by an avenue of poplars, opening into fern-fringed glades of kingcups and cowslips, flowering even as late as June. An abundant and varied vegetation surrounds the palace and its dependent village.

Flowers are the exuberance of Sweden. Beautiful as the Lake Mälär is, there is seldom much charm of colour in the water itself—at least not to people used to the Swiss lakes; but there are soft pink-budded trees, and a tender lilac-grey rock, and lichen tints of all sorts—these lichens have a great range of hues, from purest amber down through all the greys and sage-greens to crimson and solemn purples—and all this is gemmed with flowers. A long floating bridge connects Drottningholm with another island, whose rocks are crested with tall black pines and stiff spruce firs—a contrast to the softer charms of Drottningholm, or the queen's island.

In the low ground on the Nöckeby side, which is the side by which Linnæus would leave it to return to Upsala, the park slopes up like an amphitheatre through many golden glades of kingcups.



The palace grounds are laid out variously in the Old French, Dutch, or English style. From the terrace a flight of steps leads to a garden—which reminds one of France—ornamented with vases and groups in bronze and marble of considerable merit, with fountains, ponds, and water-avenues where swans live and breed. There is a *Théâtre de Verdure*, a unique and charming structure, built by Gustavus III., with stage and room of clipped trees and turf, where that sovereign loved to act French plays. There is also a range of complicated walks; a Swiss cottage; a Chinese pagoda; Flora's hill, with a statue of the goddess; the *Kina Slott*, or Chinese castle, a sort of plaything built in 1752, by King Adolf Frideric, and presented by him to his queen, Louisa Ulrica, on her birthday—a festival which Linnæus of course attended. 'This building is filled with Chinese curiosities. And near the so-called Canton village, composed of a number of villas, was a factory hamlet, where the manufacture of steel and iron ware was carried on, conducted by the king himself, probably then the most skilled locksmith and turner in Sweden.

'Ascending wide steps leading to the palace, one enters a hall, recognised at a glance by its decorations as the work of Nicodemus Tessin. A noble staircase leads to the rooms above, full of paintings, tapestry, collections of china, and portraits of King Adolf Frideric and his beautiful blue-eyed wife.'<sup>1</sup>

<sup>1</sup> Du Chaillu.

In the temple consecrated to Nature at Drottningholm a medallion of Linnæus is suspended amidst those of the most illustrious Swedes.

‘1753.—At the end of last year, and the beginning of this, Linnæus was again commanded to go to court at Ulrichsdal, where the king had formed a menagerie of living beasts and birds, as well as a fine collection of fishes, mostly preserved in spirits, and various animals, besides a most instructive collection of petrifications’<sup>1</sup>—the craze of that day, heralding the whole science of geology, the dawn of a great light.

‘The innumerable petrifications of foreign animals, and of animals never seen by any mortal in our days, which often lie hid among stones under the most lofty mountains—these fragments of the ancient world reach far beyond the memory of any history whatever.’<sup>2</sup> This fresh but prepared mind now tremblingly began to read the autobiography of the world in the globe’s records of its own history. This was a new light then, and terrible to the dim, unused eyesight of our great-grandfathers. It was like holding up a telescope to the eye of history. Linnæus’s strong mind appreciated truth keenly; his comprehensiveness of view could seize it at a glance. He says, ‘The magnificence and beauty, the regularity, convenience, and utility of the works of creation, cannot fail to afford man the highest degree of pleasure.’ This exquisite order, which could not be

<sup>1</sup> Diary.

<sup>2</sup> Preface to *Museum Adolphi Friderici*, Linnæus.

perceived by untrained eyes, it was Linnæus's work to display and make manifest. It was also his delight. 'Among the luxuries of the present age, the most pure and unmixed is that afforded by collections of natural productions.'

We cannot be surprised that Linnæus should feel this strongly when we examine the plates just then being prepared for the magnificent descriptive volume which was published in 1754. This costly folio of 110 pages, entitled 'Museum Regis Adolphi Friderici,' describes the rare animals, birds, amphibia, and fish of the king's collection in double columns, Latin and Swedish, with fine careful plates, and other ornamental line engravings of a fanciful character, in the fashion of the time, with Cupids, like those Bartolozzi was so fond of engraving, disporting among marvellous animals of uncertain sort, with birds-of-paradise all tail, pyramids of mongrel shape, and still more hybrid trees; showing the struggle art long held out against reality and nature. Truth and grace were held as conflicting elements by the wilful, obstinately prejudiced art of that day. Linnæus insisted upon accuracy in the plates relating to his scientific descriptions; the purely decorative prints he resigned to fate, feeling that art had mysteries beyond even his comprehension. There are thirty-three plates of animals—apes, serpents, the *Chimera monstrosa*, and strange fishes—all accurately portrayed, illustrating the ninety-five folio pages of double-columned letterpress. These were looked upon as diagrams; the fancy pictures

were then considered the artistic portion of the book.<sup>1</sup>

The Latin preface, 'one of the most entertaining and eloquent recommendations of the study of nature that ever came from the pen of an enthusiastic naturalist,' was translated into English by Sir J. E. Smith in the book called 'Reflections on the Study of Nature,' and first printed in 1786, appearing again in a volume of tracts relating to natural history in 1798. Sir J. Smith says the book '*Museum Regis Adolphi Friderici*,' 'one of the most superb and expensive of all Linnæus's works, is scarcely known in this country.' The name of its author, as Mr. Stillingfleet formerly remarked, is in everybody's mouth; but probably many people have heard of him without precisely knowing how much the science of natural history and many useful arts are indebted to him. This is as true now as when Sir J. Smith wrote it.

"*Museum Adolphi Friderici*," which Linnæus had written at the palace of his great sovereign, was sent to press 1755.<sup>2</sup> The systematising of the fishes in the collection caused him considerable labour. 'As to *Pisces*, indeed, our excellent Artedi had written on them with great ingenuity, but his method was difficult and insufficient. Linnæus discovered an entirely new and very easy mode of distinguishing them, namely, by the

<sup>1</sup> It is curious, philologically, to read the Latin and Gothic pages side by side. Gryllus is *Gräshoppa* in Swedish; the Sepia is the *Bläckia*; *Spinnel* is our Spider.

<sup>2</sup> Diary.

situation of the ventral fins. His descriptions, which rendered it necessary to count the radii in the fins, occasioned him considerable labour.’<sup>1</sup> This, which to the unscientific reader smacks somewhat too strongly of the counter of stamens, is defended by a scientific writer: ‘The arrangement of fishes by the relative position of their ventral fins was a happy and original idea of the Swedish naturalist, as pointing out their leading differences of form and habit by a distinctive character, taken from a peculiar organ of their own. Shells he was long before he would study minutely at all, considering them merely as the houses of particular animals, the knowledge of whose structure and economy was in a great measure inaccessible. At length, however, the uniformity of his plan obliged him to class these popular objects of admiration in some way or other, and he has succeeded at least as well as any of his fellow-labourers; though we are by no means inclined to justify some of his terms, which are borrowed from an anatomical analogy, not only false in itself, but totally exceptionable.’<sup>2</sup>

The Queen of Sweden had received a fine collection of shells, &c., from India. ‘Linnæus received commands to repair to Drottningholm to describe all these. He was obliged to make a new science in respect to shells, to which nobody had paved a clear way, and to lay a foundation which he had not thought of.’<sup>3</sup> He conjectured the key through Nature’s own suggestion from the hinge.

<sup>1</sup> Diary.

<sup>2</sup> Sir J. E. Smith.

<sup>3</sup> Diary.

‘He had the honour of conversing daily with this great and excellent queen.’

‘The royal collections threw in Linnæus’s way a multitude of very fine and costly objects which otherwise he would have had no opportunity of describing, and these were fortunately all collected before the publication of the enlarged editions of the “*Systema Naturæ*,” his grandest work.’ Yet we must never forget the element of his persuasive grace of manner in thus leading up to and utilising a fashion as an important factor in the progress of science. The ladies of the court either made collections under his encouragement, or painted flowers; embroidery took a naturalistic turn; the French patterns most admired were those which harmonised an appearance of nature with the received ideas of grace. The colours were more natural than the forms of their designs—the reverse of the practice of the present day. Linnæus devoted some of his leisure time in winter to the arrangement of his friend Count Tessin’s collection of fossils at Stockholm, of which an account in Latin and Swedish, making a small folio, with plates, called ‘*Museum Tessinianum*,’ came out in 1753. ‘Count Tessin was likewise partial to this science’ [natural history], ‘especially fossils and shells. His countess loved botany. Thus it seemed as if Linnæus had raised the science from nothing in this kingdom to its utmost extent, it being loved and cultivated by the greatest people.’<sup>1</sup>

<sup>1</sup> Diary.

Man is essentially mimetic; this is why a fashion spreads. Rousseau, besides, had written this one up and invested it with poetry. White of Selborne and his correspondents were all at work observing. The curiosity of Europe was aroused, and this chiefly by means of Linnæus, through his own personal charm; for though Haller and other great men were as deeply scientific as he, they never attracted the world's attention. Science would have remained locked in frowsy cabinets to this day had not Linnæus's influence over the rich and great placed power and money at its service. Rewards now flowed rapidly in.

'He was presented by her Majesty with a fine gold ring set with an Oriental ruby. Count Tessin gave him a gold watch and Rumphius's "*Herbarium Amboinense*," worth 100 plâtar' [about 27*l.*]. 'But what pleased Linnæus most was that H.M. Louisa Ulrica, that excellent queen, inquired after his then only son, and being informed that he had a taste that way, she promised to send him, when he was grown up, to travel over Europe at her own expense—at which gracious promise Linnæus heartily rejoiced.'<sup>1</sup> On April 27, 1753, Linnæus, who had long been Knight-errant of the Woods, received from the hand of his sovereign the order of the Polar Star, never before conferred for literary merit, nor bestowed below the rank of a nobleman.<sup>2</sup> Linnæus was one of Nature's noblemen. Was not his blood purer than that of a Norman pirate?

<sup>1</sup> Diary.

<sup>2</sup> Rosen was ennobled, but not knighted.



His motto on receiving the order was no longer 'Laudatur et alget,' but 'Famam extendere factis.' He shone a polar star, or as they who

Shine by upholding the very truths which the world forgets.

He also received a medal for his dissertation (subscribed 'Nelin') with the legend ILLUSTRAT, 'He illuminates.' This inscription is on several of the Linnæan medals. The legend EQ. V. AVR. on the slab which covers Linnæus's remains in Upsala Cathedral implies that he was a Knight of the Golden Fleece, but the diary makes no mention of his receiving this brilliant distinction, although it is now a continued catalogue of prosperity.

'1755.—"Flora Suecica," augmented, was published a second time in order to point out to the public the use of our native plants.'<sup>1</sup>

'A medal, bequeathed by Sparre, value 10 ducats' [4*l.* 15*s.*] 'was given to Linnæus for his memoir on making the mountains of Lapland useful.'<sup>2</sup> This was a monograph on arboriculture suited to the sub-arctic region.

'*September* 29.—The Russian ambassador came to Upsala to deliver to Linnæus a letter of invitation to the Russian court and a diploma as member of the Imperial Academy at St. Petersburg.' Then follows this suggestive sentence—out of which one might fashion a romance—'Menetti, who had written against Linnæus, repented of it.'<sup>3</sup>

<sup>1</sup> Diary.

<sup>2</sup> Ibid.

<sup>3</sup> Ibid.

But our hero's life, so splendid to all appearance, was not all happiness. Time was removing his friends and fellow-labourers; though, of those who furthered science with him from the outset of life, Rosen and he still stood in the front together. Sir Hans Sloane died January 1753, aged 93. Dean Celsius died, aged 76, in 1756.<sup>1</sup> He always found, among his academical colleagues, the warmest and most grateful of friends in his former pupil. Linnæus always cherished his memory; they were like father and son: it was a true adoption.

His second son, Johan von Linné (as the family now began to be called), born April 7, 1754, died March 7, 1757. Linnæus alludes thus tenderly to the lost child: 'My little son Johan, who had just begun to talk a little, was attacked with the epidemic cough. After having been ill eight days he took leave of the world in the night between 12 and 1. He had not attained the age of three years.'

'November 8, 1757.—My daughter Sophia was born dead (to all appearance), but by means of *insufflatoria medicina* came to life in the space of half an hour, and was baptized November 9.'<sup>2</sup> One account speaks of his clasping the seemingly stillborn infant passionately, saying, 'She must not, shall not die!' He pressed her to his bosom, emitting his breath from his mouth to hers, and, behold, she revived and lived! This was told Stoeber by an intimate friend of Linnæus in Germany. Sophia was his favourite daughter.

<sup>1</sup> He was born in 1680.

<sup>2</sup> Diary.

March 3, 1758.—He received from Count Tessin the handsome gold medal struck in honour of the lately published '*Systema Naturæ*,' with the inscription ILLUSTRAT and three crowns symbolising the three kingdoms of Nature.

His days were still 'marked for what they brought, not for what they took away.'

'1759.—My only son was appointed demonstrator in Upsala garden. During the autumn term I was rector,<sup>1</sup> their Majesties and Prince Gustaf, with the princess, visited the university, and I made an oration'<sup>2</sup> (in Swedish). The king delighted to honour him, and came expressly to Upsala to distinguish him in his office as rector.

'1760-1.—Large fees came in from the Demidoffs and other Russians.'

'It having been understood in the Diet that Linnæus possessed the art of making pearls, he was ordered to attend, and discovered the whole art, for which he received from Bagge, merchant at Gothenburg, 1,800 copper dollars'<sup>3</sup> (520*l.*). Pulteney says 1,800 dollars is about 440*l.* The secret passed by inheritance to Oscar Dickson, the present great Gothenburg merchant.

Linnæus was now a rich man, so careful was his Elizabeth, who even grudged postage, I fear. He could afford to buy himself the possession which was as a vision of paradise in the days of his poverty at Upsala—the rocky ground and woods which protect the fertile

<sup>1</sup> It seems for the third time.

<sup>2</sup> Diary.

<sup>3</sup> Ibid.

lands of Hammarby; where the land, unlike the rest of the country round Upsala, resembles his native Småland in being rocky and set with fir-trees. He wanted a country home for his children, and a place to retire to in his old age. He gave 80,000 dollars, about 2,330*l.* sterling, for his estate of Hammarby, and a neighbouring one, called Söfja, that he purchased somewhat later.

‘Linnæus began to build his house at Hammarby.’<sup>1</sup>

In 1762 he received a diploma from the Royal Academy of Paris.

On March 19, 1763, in the twenty-second year of his age, Carl von Linné was appointed adjunct professor of botany, with a promise, hitherto unexampled, that after his father’s death he should succeed to all his academical functions.

‘1763.—Linnæus was excused from his professorial services, and his son obtained a grant to fulfil his office, though only twenty-one. However, the father continued to act as professor until the son was fully competent.’<sup>2</sup>

Linnæus’s biographers dispute the date when he was ennobled. Their assertions vary in a range from 1756 to 1764. In his own diary he mentions receiving in November 1761 a patent of nobility antedated 1757. Elsewhere he gives the date more precisely as April 11, 1757. He was now called Von Linné, as he ever after signs himself, and is always so spoken of abroad. In England we knew him best as Sir Charles Linnæus.

<sup>1</sup> Diary.

<sup>2</sup> Ibid.

The termination *us* is confined to the plebeians of Sweden. The universal custom of that country prescribes the prefix *Von*, and abolishes the affix *us*, in the names of those who are ennobled.<sup>1</sup>

He designed his own coat of arms. The shield was divided triangularly in a manner common in Swedish heraldry—in three fields, gules, vert, and sable, with a crown in each to denote the three kingdoms of nature ; an egg in the middle, in allusion to his fundamental position ‘*Omne vivum ex ovo.*’ The crest was the *Linnæa borealis*, between two aloe leaves, which are also frequent in armorial bearings of the Swedes. The motto was ‘*Famam extendere factis*’ (‘To spread fame by deeds’). Tilas, the censor of heraldry, had entirely altered the original design of his shield, but we are not told who had the last word to say about the blazonry.

Beginning now to feel the frequent failure of his overtaxed powers, he was glad to have Hammarby to retire to, and to be away from court ceremonial, from the whirl of students and visitors, and talk and perpetual correspondence of admirers. It is too arduous work for one man to be king of natural history ; it is better for all that it should be a republic. Hammarby united, in a sense of hope fulfilled, the remembrance of his birthplace with the scene of the victorious struggles of his youth. There was a sense of peace and repose about it, combined with the gratification of being still within reach of his cherished university and the

<sup>1</sup> Brightwell.

society of loving and reverent minds, that made it of all places most fit for the autumn of his life, cheering the sense of drooping and despondency that inevitably comes with autumn. All is vanity.

Rather give  
The supernatural consciousness of strength  
Which fed my youth! Only an hour of that  
With Thee to help—O what should bar me then?<sup>1</sup>

But with this feeling that all is vanity came the consoling knowledge that God is infinite, and His love and mercy infinite as His greatness.

As someone says of our Kingsley, ‘I sometimes wondered whether his scientific knowledge had not dulled the splendour and dissipated much of the mystery that fill the world for a poet’s heart. A very sad and tender look came over his face: then speaking slowly, “Yes, I know what you mean; it is so. But there are times—rare moments—when nature looks out at me again with the old bride-look of earlier days.”’

Linnaeus’s life’s work was well done. In the last step, which we must all look to, he foresaw the removal of the scaffold he had erected; he knew that his system must by-and-by be swept away; but he also saw that the building he had founded was a grand one, and would endure—

A column of black fiery dust  
Blots heaven—that help was prematurely thrust  
Aside, perchance!—but the air clears, nought’s erased  
Of the true outline! Thus much being firm based,  
The other was a scaffold.<sup>2</sup>

---

<sup>1</sup> Browning, *Paracelsus*.

<sup>2</sup> *Sordello*.

Linnæus scarcely felt the disadvantage of his hyperborean situation; plants poured in from all climes; disputes about methods and systems now laid aside, everyone was employed in practical observations and discoveries. He had taught men the way to learn natural history, and we now see how they profited by his teaching—for he taught them well. He reaped the firstfruits of his teaching in his lifetime, and had the joyful conviction that the succeeding generation would see a rich harvest of knowledge all over the globe.

What Ferney and Geneva were on account of Voltaire and Rousseau, what Abbotsford was because of Scott, the remote city of Upsala became on account of Linnæus.<sup>1</sup> Other naturalists may amass larger fortunes, or even be greater men; but we shall never again see a splendid sunrise like that of natural science in the person of Linnæus.

<sup>1</sup> To pursue this reflection would lead to a whole bookful of thoughts on decentralisation, and the mental starvation one feels in living anywhere out of reach of a metropolis. Great men are always needed to form in many places centres of intellectual life. How great is even one man's influence! When I think of Hallé giving perfect music to Manchester—lifting that city out of a condition of being one vast factory—I wish it had been an Englishman who had done this. I trust that England will not forget what Milton calls 'her precedence of teaching nations how to live.'



## CHAPTER XXII.

## ST. MARTIN'S SUMMER—LINNÆUS'S SILVER WEDDING.

Imagination fondly stoops to trace  
 The parlour splendours of that festive place :  
 The whitewashed wall, the nicely sanded floor,  
 The varnished clock that click'd behind the door ;  
 The chest contrived a double debt to pay—  
 A bed by night, a chest of drawers by day ;  
 The pictures placed for ornament and use,  
 The twelve good rules, the royal game of goose ;  
 The hearth, except when winter chilled the day,  
 With aspen boughs and flowers and fennel gay.

*Deserted Village.*

WHILE Goldsmith was writing the 'Vicar of Wakefield,' in 1764, another such worthy patriarch was living the life of his story, set in 'a background of calm' to the wars and fierce revolutions going on at that time, where Goldsmith little guessed it—in Sweden.

Linnæus wished his children to have a house in the country, that they might be brought up, as he himself was, in the freedom and knowledge of nature. His own note-book, written in 1762, says, 'Linnæus built a house at Hammarby so that his children might have a place of abode, as he felt himself growing weak. His

son Carl would, of course, keep the official residence in Upsala, and he wanted to provide a home for the rest. Besides this, he had long been possessed with that 'thirst for a lodge in some vast wilderness' that comes on many men and women between the ages of forty and fifty.

So he built Hammarby and set it in a garden—showing that an Eden can be made even in Scandinavia—and did many other works of natural magic, at least as marvellous as the march of Birnam wood to Dunsinane. He built a museum of natural history at Hammarby, to contain his own private collection, separate from his house, as a precaution against fire, which, however, seems once (in 1766) to have come very near destroying the collection. We find no particulars of this fire, only an expression in the diary of thankfulness to God who protected him from fire, and a letter of Collinson's dated March 1767, who writes, 'I feel the distress you must be under with the fire. I am glad, next to your own and family's safety, that you have saved your papers and books.'

During the last twenty years of his life Linnæus mostly resided for the summer at Hammarby, where, laying aside the solemn habit of the professor, he became a friendly companion in dressing-gown and slippers and red cloth cap, stout, and stooping with some difficulty over that rarity a yellow cabbage rose, protecting the bush from insects by planting camomile under it; Linnæus 'being,' as Fuller quaintly hath it, 'a very

corpulent man, but spiritually minded.' 'Power has a natural tendency to corpulency,' says the Clockmaker; so it is with men.

It is pleasant to contemplate Linnæus in his squire-like aspect, he and his wife installed in their high positions; he the provider, she the divider, of bread, honouring the neighbourhood, 'an institution in himself'; receiving the visits of the learned and respectful world; directing his pupils, and even entertaining in a dignified yet homely way the King of Sweden and the grandees. He had a visit here from Dr. Laurence Burmann in 1760, the son of his old Dutch friend. Linnæus found an opportunity to requite Burmann's favours, by kindness and instruction to his son, who had studied under him at Upsal since 1759. Great people enjoyed their visits to Hammarby, in those 'blest silent groves, mirth's best nursery.' The mingling of deep learning with country pleasures and the company of their host's four pretty and lively daughters was charming. Linnæus would often make up dances for his family and pupils at Hammarby, where, with unaffected and amiable gaiety of mind, he used to look on and even derive amusement from these little domestic festivals; wise, playful, tender—for, as Disraeli says, genius can be everything—smiling on his children with sunny fondness.

He would walk with his visitors to the gate, or sometimes through the forest path that still makes the shortest cut to the high-road, where a cottage did duty

as a park lodge as well as if the free peasant's family had been his own dependents: so much was he beloved by the neighbourhood that all were eager for the honour of serving him. To the younger guests his smiles were so kind and so benevolent, and he would utter so many good wishes for their happiness and usefulness, that they left him with a sense of having been bathed in a bounteous, overflowing nature, and as if some of the gifts of that rare intelligence had been bequeathed to themselves in the hand-pressure at parting.

In the spring of 1834 M. Pontin, the Swedish royal physician, wrote a graphic description of Hammarby, translated in Loudon's 'Gardeners' Magazine' for May 1838. Before leaving Upsala he paid a respectful visit to the only remaining branch of Linnæus's family, his daughter Louisa von Linné, who, although about eighty years of age, was still cheerful and in good health. 'She gave her visitors the key of the rural dwelling which was the favourite retreat of Linnæus. The road to this place runs through the well-known King's Meadow, mentioned in the works of Linnæus, which was completely covered with the varied shades of the purple fritillaries. Three colours generally predominated, blueish-purple, pale red, and white.' I will not transcribe M. Pontin's account of Hammarby, which reads to me somewhat inaccurate, through his careful notes having been translated and edited by someone who had never visited Hammarby. Thus, like most records of Linnæus, it is a curious

mixture of petty detail and inexactitude as to the broader facts.

I will describe Hammarby as I saw it in 1885. It was June 6. I was staying at the great Stadhuset Hotel at Upsala—one of the few abodes in Sweden that impress the traveller with any sense of luxury—quartered in the palatial central apartment, the one with the long pleasant balcony, double windows, and the fine rock-crystal chandelier. They are used to English travellers here, and pamper their self-indulgent ways. One looks out upon neat streets, in which walk groups of white-capped students, often singing in chorus, in the late hours of evening.

There is more verdure in Upsala than we had found elsewhere in Sweden, but it was not in full leaf; they were just planting out the geraniums in the beds in the botanical garden. The weather was warm, but not oppressively hot. The appearance of the moon startled me early in the morning; in the green sky it looked like a slice of a red melon in a green dish.

They proposed to us to take a carriage over to Hammarby, hearing we intended to go there; but we wished to be alone and free, and meant to make an afternoon and evening excursion of it, so we took return tickets to Bergsbrunna, two stations on, whence we should strike across-country. Everyone understood where we wanted to go, and smiled, and called it 'Linnæus's Hammarby.'

Crossing a tributary of the Fyriså River, we walked

along the shadeless windy road to Danmark, with the view of Upsala's towers and spires on the heights to the left. Danmark church, which Linnæus attended as a parishioner, is a red-brick, round-arched, square-towered, village church, 'founded by St. Erik's widowed queen, who, grateful for the defeat and death of Magnus, murderer of her lord, raised a church upon the battle-field, and called it Danmark.' We drank from Danmark pump, and inquired the way to Hammarby. There was no lack of ready information. An old woman slid out like an eel from between the bars of a straw-waggon. She knew all about it; 'Ach! ja; Linnæus's Hammarby.'

Here the country began to remind us of Stenbrohult, with rocks showing glacial friction, set with fir trees and anemones. 'Ah, this is like Linnæus's old house "at home,"' we said. It poured enlightenment on his choice of this place as an ancestral home for his children. We could well fancy his finding this place while a poor student and looking back fondly to the spot when he had become a great man.

The old woman showed us a short-cut by way of her cottage; and, in her profuse good-nature, she stuck to us like Sindbad's old man of the sea. At length she left us, and after a time of enjoying the woodland paths, as they grew complicated and the trees dense, we remembered having heard that elks are often killed in the woods near Upsala, and, having seen varieties of their horns displayed in the hall at the Stadhuset Hotel, we felt, as unprotected females always do, a longing for

guns, and above all for the old woman as a guide. We found the real Hammarby at last, and were shown over the house, left as the Linnæus family had left it.

M. Pontin says, 'On account of some unknown family arrangements made by the descendants of Linnæus, this house has never been occupied since his decease.' This is a mistake: his widow continued to live at Hammarby, and we were shown the bedroom that she occupied in the ground floor after her widowhood. But he is right in describing the sensations experienced on entering this house—which, with its furniture, has remained undisturbed for about a century—as comparable to those felt on crossing the threshold to the *atrium* of an excavated house in Pompeii. 'All the surrounding objects are relics and recollections of bygone times, consecrated in a sanctuary for future generations.'

Linnæus's Hammarby, as it is still fondly called by the natives, is a group of three wooden houses painted red, with white doors, shutters, and sash-bars, set round a small square garden plot facing the south, commanding a rich and happy prospect of meadows and gardens, from among which peep the village roofs, the landscape further cheered by cattle and great hayricks. The domain is sheltered by a crescent of pine woods from all northern points; the distant fir woods in the horizon also break the force of the wind sweeping upwards from the plain. Upsala lies away to the right, north-west. This landscape, though not the perfect scenery that Linnæus considered it, is charming as the western light



falls on the back and right side of the house at the evening milking-time. It was the deep charm of home that made it so lovely in the eyes of Linnæus, as a man may affectionately admire a wife in whom the outer world only sees amiability.

The horse-chestnut,<sup>1</sup> just beginning to blossom now, that stands just before the door of the dwelling-house is said to have been planted by Linnæus himself. M. Pontin says his handwriting testifies to this. It is the same tree as that represented in the old print hanging in the dining-room inside, only grown older, and its boughs supported by crutches. The three wooden buildings stand at right angles to each other, like the Hebrew Beth. The central or dwelling-house, facing south, is the largest; the others, one of which formerly contained the greater part of his collections, look like outhouses or stabling, now that they are dismantled.

Entering the central red house by the double front door with a six-paned fanlight and an old-fashioned ornamental lock, we are admitted into the favourite home of Linnæus. The door is kept closely locked now, for Linnæus's relics are carefully preserved for the nation *in statu quo* as his family left them, undisturbed, and without addition or claptrap. The caretaker, who was then tidying up the garden against the season for pilgrim tourists, lives in a neat house close by. It is pleasant to see how neat, pretty, and comfortable an ordinary gardener's cottage in Sweden can be.

<sup>1</sup> Not a sweet-chestnut, as mistakenly said by M. Pontin.

Even a lady might live happily in it : yet it is only an everyday example. The man lifted aside a stone by the doorstep to get at his own cottage key, whence he took the still more carefully hidden key of the great botanist's house. These keys were the exception to the rule in Sweden of placing keys where they can be easily found and used. People conceal their keys very innocently in Sweden, like Miss La Creevy slipping her door-key under the fender or the doormat ; only the Swedes make no mystery of it. Inside the brass door of the parlour stove is a favourite summer hiding-place for keys.

Hammarby is a roomy and comfortable house. We glanced round the rooms downstairs—first in the dining-room, as we should call it, which seemed to be the general living-room of the family : a good-sized room with a two-storeyed stove of green enamelled tiles, white-washed ceiling, and plain wooden wainscot horizontally boarded ; over a plain sideboard is a portrait in oils of Linnæus's father, marked 'Ætatis 68 : Natus 1674.' A fine old man the father, with considerable likeness to his eminent son ; bright-eyed, alert, yet with long silky white hair and white moustache, and beard flowing down over his hands. One hand is on a clasped bible, the index of the other on a skull ; a large ring, his marriage ring, on the fourth finger of the right hand. Here are also portraits of the botanist's brother—round-faced and fat, with periwig, snowy bands, and one of his bright-eyed sisters ; and an old print or two—one of Hammarby itself. A Japanese tray is also hung up, and a neo-

Pompeian mirror. A tall clock stands in a corner, and four tables in the windows; these could be placed in one large row for a banquet, and even extended by the addition of two more tables of the same size in the next room. There is likewise a small red Japanese table with a tray top—probably one of the Japanese things Linnæus brought from Holland as presents to Elizabeth. The room next this was used by Fru von Linné as a bedroom after her widowhood. Here is a tester bed and a railed sofa. There are hooks for lamps in both these ceilings. The bedroom ceiling is papered white. The doors have four oblong panels, arranged differently to ours: two panels stand upright in the centre, the others are laid horizontally top and bottom. The kitchens are suited to a hospitable household.

Linnæus in his Lapland diary says, 'Among the Laps the men are employed in the business of cookery, so the master of the house has no occasion to speak a good word to his wife when he wishes to give a hospitable entertainment to his guests.' Smith hints that Linnæus was by no means sure his wife would welcome his guests hospitably.

We then went upstairs to the saloon, a cheerful, sunny room, with south-west aspect, hung with portraits of Dr. Moræus, looking like the taciturn William Prince of Orange, on one side of the window, and Count Tessin, like a French king, on the other side. It was formerly the habit of portrait-painters to flatter their sitters by making them as like the reigning king or

queen as possible, as our photographers endeavour to make all slender young ladies resemble the Princess of Wales. On the left side of the room is a portrait of Linnæus himself when young, wearing a decoration of an eight-pointed cross, and holding the *Linnæa borealis*. There are a good many portraits, here and elsewhere, of Linnæus—one in a full curling wig. Perhaps this was part of his personal vanity—but do we not all know persons who have themselves photographed at least once a year? yet we never hint at vanity. His best portrait is that by Roslin. He also considered this the best likeness. ‘Linnæus was below the middle height, strongly made, and he had a habit of stooping, from his constant search for plants when walking.’ His head was large, with what Sir W. Jardine calls a strong gibbosity on the back part. This was a marked feature of his cranium. His hair from being flaxen had become brown, his countenance serene, his brown eyes keen and singularly expressive and penetrating; his senses were all sharpened by practice, and his industry was inexhaustible. There is a good medallion of him, made by Wedgwood, with the curling wig of the period, the order of the Polar Star, and his own personal order, a sprig of the *Linnæa borealis*, at his button-hole. At Hammarby are also pale blue Wedgwood cameos of Solander and Banks, the naturalists, with an inscription, half effaced, concluding—DISCERE QUID QUÆQUE FERAT REGIO. Banks was of Swedish descent; eighteenth from Simon Banke, who in the reign of Edward III. established himself in

Yorkshire. Solander was a Swede by birth. There are several little wax and other medallions about, and a black silhouette or two, and an old pewter medal of Rudbeck, evidently highly prized.

More interesting to the visitor are the portraits in pastel of the four pretty daughters of Linnæus, done probably by Lundberg—*le roi des pastels*, as Queen Louisa Ulrica calls him. How was it that in that artificial age, the century of mannerism, Romney and Reynolds, and Gainsborough especially, and others, painted youth and innocence so well? Was it a protest?

These fresh young faces people the empty house, that else would be full of ghosts. Pontin is mistaken in saying there is no portrait of the son: there is one in pastel, like those of the mother and the girls, only Carl's looks as if it had been rubbed, or hung up in the damp—in another room perhaps. This half-effaced portrait of Carl is very like the mother, who is a plain middle-aged woman. Her portrait is also faded, so perhaps that part of the wall is damp. The eldest daughter, Elizabeth Christina, is very like her, showing what Elizabeth Moræa was like when she first captivated Linnæus. It was said Lisa Stina excelled her brother in every sort of knowledge, and had written some works on botany. The second girl is also like her mother and sister, only prettier; she is also very like grandpapa Moræus. The third is like Linnæus. These three have brown eyes, and are good-looking, fine girls. The

second and fourth daughters are pretty; the first and third look cross; so does the mother in the faded pastel. The youngest, a little girl, has a pretty, laughing face and blue eyes; this is Sophia, the favourite child, who was thought to be born dead. She is quite a little Swede, with a dumpy nose and apple-blossom complexion. Two of the girls were called Christina after Linnæus's own mother; the third is Louisa. They all have roses in their hair, which they wear powdered and turned up on a cushion, not so high, however, as was the fashion in England at the time.

There are also the likenesses of some favourite animals in this saloon: two monkeys over the door leading to Linnæus's own bedroom. The family arms are painted over the door leading to the stairs; a glutton and a sperm whale on either side the door; and a favourite long-tailed monkey—a family pet—on the same wall as Linnæus's own portrait. The master's own leathern armchair stands in this room, whose bare plank floor and ceiling are finely planed almost to a polish. In the angles of the room are brackets with gilt Venuses and other statuettes; doubtless the pride of the family when they came new and fashionable from Stockholm: now they look trumpery. In one corner stand Linnæus's tall black staff, with runic characters engraved on it, another staff with a hook to haul down branches, and a knotted cudgel.

Below the pictures the walls are papered with engravings, apparently from his own publications, of

outlines of plants. Some are coloured by hand, some are left plain. These are very good and very interesting, though few persons would consider they justify their owner's praise when he says, 'The paper hangings in his parlour exhibited drawings of plants from the East and West Indies, and in his bedroom were paintings of insects; the whole more splendid and handsome than any tapestry that was to be seen.' But these things, besides being valuable in themselves as proof prints, were what he loved and most admired, and he pasted these pictures on the walls with his own hands. I agree with him. We who are so used to royal and national picture-galleries and museums full of rare proof engravings, besides rich botanical and zoological gardens, cannot fairly judge of the extreme interest of these things, then just newly brought to knowledge: they are like some dainty foreign memorial in an otherwise dull house.

Some trifle little heeded there, but here  
The place's one perfection.

The saloon opens upon his own bedroom, hung with plates of coloured plants and butterflies on the walls. These prints are well coloured by hand. Many of the marginal names are interesting to English people: 'R. Lancake delin. Published according to Act of Parliament by P. Miller. February 26, 1757;' 'G. Miller sculp. C. D. Ehret delin. 1757,' and 'July 27, 1756,' and various other dates and names, several of them English.

It is wonderful how the wooden house, in a forest



besides, has preserved these things dry and unspoiled. Were they not things that could not be replaced, no one would believe that the log and plank house could have preserved all these prints and perishable objects for upwards of a century, thus open and in an empty house.

This room contains a portrait of Linnæus in a red coat, and his wife's prettiest portrait, in a red dress. The tester bed has remains of painted muslin curtains of Chinese or Indian fabric, which are still pretty, and must have been charming when fresh. Here is a glass-case full of relics of Linnæus: his doctor's hat from Holland, now faded to a greenish drab felt *tricorne* with a pinkish bow; also his red velvet *calotte* with ear-flaps very neatly made (for he was particular about his appearance) that we read of his wearing habitually at Hammarby. Here is also his inkstand—a large yellow earthen pot with holes about it for the pens, &c.

There are portraits of only two of Linnæus's sisters in the house—the two rectors' wives, I fancy. Perhaps Emerentia, who married the Receiver-General (police-officer?) Branting, was no credit to the family. We do not know enough about official grades in Sweden to judge of his position, and there are especial difficulties of translation with respect to titles. He seems to have been a tax-gatherer.

The first room on the landing, facing the saloon, leads to the guest-room— a good-sized spare room hung

with some old Japanese pictures. The usual Swedish telescope bed, ornamented in classical style, like that we call Adam's pattern, still has its fine homespun linen sheets marked in cross stitch 'C. L. 16.' The pink-covered chairs are in French classical style.

The daughters' room comes next, and next to it the son's room, with a green-tiled stove, a chemical barometer, and some electrical apparatus hanging on the walls. Here is one of the ordinary Swedish sofa bedsteads with old-fashioned laced sacking, as well as the small green-painted bed the great Linnæus died in. This bedstead is low, and looks unusually short. Perhaps Linnæus used his son's room in his last illness that he might have the young man's attendance to lift and support him. These rooms are papered, and must have looked highly fashionable in his day, when the house was 'replete with every modern convenience': the anteroom by the staircase is merely whitewashed. The staircase balustrading is of laths cut in a pattern and painted white. There is an upper staircase, in a sort of cupboard, leading to the garrets. The doors are all neatly and elegantly panelled. It is altogether a plain and unpretending country house, of cottage-like exterior. We were taken through a rocky woodland path, up the hilly grounds behind the house, to Linné's reading-room, called by himself 'Museum Hammarbyense,' a sort of summerhouse of one room; with oval-topped windows, wooden door of herring-bone pattern, and a pyramidal shingle roof with a ball on the top. From a glade in front of it,

always delightful, filled with the musical and fragrant breeze from the surrounding pine groves, is the view that Linnæus, with true Swedish patriotism, speaks of as incomparable in the universe. The white-blossoming bird-cherry, the Linnæan tree, grows in profusion round this woodland temple—for such it is and no less. A long fish-skin stretched upon a lath still hangs above his easel-shaped reading-chair and another high-backed cane easy-chair, used by the king in his visits. The rest of the seats are forms for the pupils. The drawers of the escritoire and the cupboard contain a few objects of curiosity, but seemingly of no great value. This reading-room was established in 1768 (the diary in one place says 1769). Here Linnæus could find quiet, and it relieved the house of the burden of scientific study. Here he delivered lectures; during eight hours a day, so it is said. Here Lord Baltimore, one of his audience, in a transport of gratitude for the instruction he had received, presented Linné with a gold snuff-box weighing 100 ducats, in addition to his fee of 800 ducats. Lord Baltimore also sent Linné a service of silver plate, or what the French call a ‘nécessaire,’ worth 2,000 rix dollars, or upwards of 300*l.* sterling.<sup>1</sup>

There are but few traces out-of-doors of the great man’s pursuits. A few Swedish winters would naturally destroy all exotic plants.

At the time of M. Pontin’s visit he says, ‘On descending from the height his party visited a small level

<sup>1</sup> Smith.

terrace between rocks. It was occupied by a moderately large larch-tree, probably planted in the time of Linnæus, when this tree was rare in Sweden. A pleasure-ground was laid out near the dwelling-house, in which, although now in a wild state, traces are still visible of regular plantations, paths, and bowers. A number of memorial tablets direct the visitor's attention to every tree that Linnæus had planted, and to those seats on which he reposed with most pleasure. A circle of poplars, a hedge of buckthorns,<sup>1</sup> and some plants of sycamore were the only remaining traces of the long-departed planter. Probably this is the spot which Linnæus calls his Siberian garden at Hammarby, and where he mentions that he cultivated five hundred kinds of seeds sent him by the Empress of Russia. The high grass was intermixed with a beautiful fumitory<sup>2</sup> growing completely wild here. There were also the *Anemone ranunculoides*, and several other plants rare in this country.' Little or nothing of this is now visible; in the last half-century the place has relapsed into the ordinary Upland landscape. Professor Fries, of Upsala, says the Siberian garden at Hammarby is now a wilderness; but some years ago several plants were yet remaining that had been there in the time of the great naturalist. Even to this day one may see *Sempervivum globiferum*, *Crepis sibirica*, *Asarum*, and some others. We gathered a few of his favourite purple anemones from the rocks in memory of the great

<sup>1</sup> *Rhamnus*.<sup>2</sup> *Fumaria nobilis*.

botanist. We found our way easily back through the wood by the crossed sticks we had laid at the turnings, and enjoyed our return walk in the brisk evening air. We drank again from the pump, when a man and a boy had finished watering their horses. Again we crossed the Fyriså's tributary, opposite the fine large building of the Agricultural School, and saw the Upsala towers clear cut in silhouette against the western sky. How sweet the lark's evening hymn resounded as he rose out of the grass high above our heads till almost lost to sight! Back in Upsala by ten o'clock, and still broad daylight; indeed at eleven it was still daylight, or a kind of mixed light clear enough to read by and to enjoy before lighting candles to write out our notes.

Linnæus kept at Hammarby a little university. His pupils followed him thither, and foreigners used to rent lodgings in the adjacent villages of Honby and Edeby.<sup>1</sup> Young Burmann was the only foreigner who ever lived in his house. 'He was as penetrating as any of the pupils I ever had under me,' is Linnæus's opinion of his old friend's son. Fabricius draws a pleasant picture of his life and surroundings before and during the building of Hammarby. It has its shadows, deep like those of a Rembrandt etching.

'In winter we' [three foreigners—Fabricius, who relates, Zoega, and Kühn] 'lived facing his house' [at Upsala, in the Swartbäcksgatan], 'and he came to us almost every day in his short red *robe de chambre*, with

<sup>1</sup> Stoever.

a green fur cap on his head and a pipe in his hand. He came for half-an-hour, but very frequently stopped a whole hour. His conversation was extremely sprightly and pleasant. He used to laugh most heartily, and displayed a serenity and openness of countenance, which proved how much his soul was susceptible of amity and good-fellowship.

A merrier man,  
Within the limit of becoming mirth,  
I never spent an hour's talk withal:  
His eye begets occasion for his wit: plans  
For every object that the one doth catch,  
The other turns to a mirth-moving jest  
Which his fair tongue (conceit's expositor)  
Delivers in such apt and gracious words,  
That aged ears play truant at his tales,  
And younger hearings are quite ravished;  
So sweet and voluble is his discourse.

*Love's Labour's Lost.*

In him was that happy mixture of politeness and cheerfulness which Sir J. E. Smith speaks of as almost peculiar to Frenchmen in the decline of life—he might have added Swedes at all ages. ‘He was an excellent companion, pleasant in conversation, full of strong hits of fancy, and seasonable and entertaining stories; but at the same time suddenly roused to anger and boisterous; the sudden effervescence of this fiery passion subsided, however, almost at the very moment of its birth, and he immediately became all plain good nature again. His friendship was sure and invariable. Science was generally its basis. The ambition of Linnæus knew no bounds; but it never extended beyond the regions of

his science. His way of living was moderate and parsimonious, his dress plain, and oftentimes even shabby. Tournefort was his pattern in his youth; he did all he could to equal him, and found at last that he had left Tournefort at a great distance beneath him.<sup>1</sup> He never delayed anything he had to do, and noted down immediately what he wished to preserve in memory. He never neglected a lecture.<sup>2</sup> Fabricius says of him, 'His greatest excellence consisted in the systematic order of his thoughts. Whatever he did or said was faithful to order, truth, and regularity.' He knew German enough to converse with, but he spoke it rarely. His foreign pupils either learnt Swedish, or always spoke with the master in Latin.

Here follows Fabricius' picture, redolent of genial nature's perpetual idyll:

'Our life was happier in the country—in summer. Our habitation was about a quarter of a league distant from his house at Hammarby—in a farm where we kept our own furniture and requisites for housekeeping. He rose very early in summer, commonly about four.'<sup>3</sup> 'At six he came to us, because his house was then building, breakfasted with us, and gave lectures upon the natural orders of plants as long as he pleased, and generally till about ten. We then wandered till twelve

<sup>1</sup> Fabricius.

<sup>2</sup> Brightwell.

<sup>3</sup> 'He was accustomed to sleep five hours in summer and ten in winter.'—JACKSON, *Encycl. Brit.*, ninth edition.

He habitually slept in summer from ten till three, in winter from nine till six.—STOEVEK.



upon the adjacent rocks, whose productions gave us plenty of entertainment.' Particularly so to these students. Linnæus said of Fabricius and Zoega the Dane, 'If Fabricius comes with an insect or Zoega with a moss, I pull off my hat and say, "Be you my teachers!"' 'In the afternoon we repaired to his garden, and in the evening we mostly played at the Swedish game of *trissett* in company with his spouse.'

To Linnæus will apply M. Halévy's eulogium on his predecessor in the French Academy:<sup>1</sup> 'To the end of his long life he set an example of youthfulness, and it is perhaps for that quality above all that the last years of this noble existence are worthy of consideration. The present world is full of young people who are tired of life before they have lived. . . . He never suffered from this incapacity of enjoying life, which is, in fact, an inability to love duty. He never required to dose, to analyse, and to decompose the state of his mind. He simply adhered to that ideal which has been for centuries the light of the human conscience. He loved labour; he loved honour; he loved his country; and it is thus that he has been able to leave behind him, living and lasting, the works of his intellect and the works of his heart.'

The elder Mill had never known a happy old man except those who were able to live over again in the pleasures of the young. The rest, he says, are selfish or

<sup>1</sup> M. d'Haussonville.

disappointed. Such men as Linnæus, who retain an eager interest in their life's work, are ever young and happy.

'On Sundays the whole family usually came to spend the day with us. We sent for a peasant who played on an instrument resembling a violin, to the sound of which we danced in the barn of our farmhouse. While we were dancing Linnæus, who smoked his pipe with Zoega, who was deformed and emaciated, became a spectator of our amusement, and sometimes, though rarely, danced a Polish dance, in which he excelled every one of us young men. He was extremely delighted to see us in high glee and liked us to be noisy.'<sup>1</sup>

While Linnæus, like another Vicar of Wakefield, thus lived a good life in the bosom of his family, revolution was rolling onward towards destruction's brink outside. The whole Christian world was more or less convulsed by war. It was not altogether fortuitous that science should have found its cradle in Sweden, where life was at any rate tranquil and undisturbed. One hears faint echoes of the wars outside, but all is hushed round the cradle of science. The two forces just now recognised in Europe—man's knowledge of nature, and of his own rights—were moving like two wheels, side by side, held by one axle, the awakened intelligence of man. It was well that the guiding mind of the driver should be kept calm above the dust and turmoil of the world—that he should be able to see his road.

The seamy underside of this fair-seeming life was

<sup>1</sup> Fabricius.

less lovely, not so neat. Fabricius, after expatiating upon Linnæus's fine eyes beaming upon their mirth, goes on to describe the rest of the family with less gusto: 'His wife was tall, robust, domineering, selfish, and destitute of every advantage of a good education. She frequently robbed us of the joys which gilded our social moments. Unable to hold any conversation in decent company, she consequently was never much fond of it herself. Under these disadvantages the education of the children of Linnæus could not but be of an inferior description. The young ladies, his daughters, are all good-tempered but rough children of nature, and deprived of those external accomplishments which they might have derived from a better education.' Fabricius speaks with great indignation of Fru von Linné's unnatural dislike of her only son. 'He had actually to sweep his own room,' says he, who is evidently Carl's friend. 'Even when he bore an academical dignity she made him sweep his own room!' She grudged him even his clothes. One of his kinsmen once made him a present of a great-coat [could this have been one of the two prosperous rectors, his paternal uncles-in-law?]; 'she also envied him this gift, and when it was worn out he clandestinely went into the garden and there turned it himself.'

One cannot understand such unnaturalness in the home of the great naturalist. Linnæus was afraid of his wife; though at times, after a storm, he asserted his legitimate authority. According to Fabricius (an eager

partisan) 'Fru von Linné forced her husband, who by such a concession surely partook largely of her guilt and meanness, to procure the nomination of his pupil Solander to be his future successor in preference to his own son, and it was part of her plan that he should marry her eldest daughter. Solander, however, disdained both the usurpation and the bait, refusing to leave England, and the misguided father recovered his senses and authority, causing his son to receive this truly honourable distinction. The mind and spirit of the young man nevertheless still drooped, and even when he had attained his thirtieth year he would gladly have escaped from his miseries and his hopes altogether.'

'Oh,' said Carl to his German friend on taking leave, 'how I envy you and your good fortune! You are at full liberty: you return now to your country to enjoy prosperity and contentment.'

'How much more do I envy you!' replied his friend, 'you are your father's successor.'

'Poh! my father's successor! I would rather be anything else; I would even prefer being a soldier.'<sup>1</sup>

The authority of the king was obliged to be exerted at his father's solicitation to prevent Carl's going into the army. This measure of the parent was happily followed up by marked kindness and encouragement in his botanical pursuits, of which treatment the son was ever sensible, and he revived from his despondency before

<sup>1</sup> Smith.

his father's death, which happened when Carl was thirty-seven years of age.

He was overjoyed when his father gave him duplicates of plants which his herbarium contained, and he received other encouragements. All on a sudden his soul was roused from lethargy, and he shook off the ties which had warped his faculties.<sup>1</sup> Carl, who had learned to draw from nature, at twenty-one published his first 'Decas Plantarum Rariorum Horti Upsaliensis' ('Ten Rare Plants of the Upsal Collection'), the plates of which, in outline only, were drawn by his own hand. In 1763 another Decas, or collection of ten species, came out upon the same plan.<sup>2</sup>

Fru von Linné's parsimony, inherited from her father, the old Dr. Moræus, and the only heritage she obtained from him, was the less excusable in that Linnæus was now the richest professor in Upsala, and perhaps the wealthiest inhabitant. His annual stipend was 700 plåtar or florins, and 120 tons of corn; making an annual income of about 500 Swedish rix dollars, varying with the price of corn. He also received a ducat a sheet for his works as an author, besides fees from private pupils.

His regular fee for private lectures, which he delivered during the summer at Hammarby, was a ducat (about nine shillings and sixpence) a lecture; but he never would receive more than four pupils for the course.

<sup>1</sup> Gieseke.

<sup>2</sup> Smith.

He dearly loved Gieseke—from whom Stoevers gained much material for his work—and Ehrhart, a Swiss pupil.

When Gieseke took leave of Linné, in the autumn of 1771, he presented him a Swedish banknote for his tuition fees; but Linné declined acceptance. After reiterated entreaties he asked Gieseke, 'Pray tell me candidly, are you rich, and can you afford it—can you well spare this money on your return to Germany? If you can, give the banknote to my wife. But should you be poor, so help me God, I would not take a single farthing from you!' This was his usual form of oath. He would accept no fees from Ehrhart. 'You are the only Swiss that visits me; I shall take no money of you, but feel a pleasure in telling you all I know gratis.'

His frugality was habit, not avarice. Fabricius elsewhere states, 'After having given us lectures all the summer round, we were not only obliged to urge him to receive the fee due for these lectures, but even to leave the money slyly upon his chest, as he had signified in a final and peremptory manner his resolution not to take it.' Yet he loved to look at gold.

Of the silly fable of his wife being unfaithful to him I can find no justifiable trace. These French novel-like fancies do not enter into the purer Swedish mind; their customs are not French, although they have equal native politeness. Besides this, Swedish women of that time had to toil and spin, and make the soap and candles, &c. They had no time for acting like a French novel. The only foundation for the tradition seems to be that while

Linnæus was in Holland he heard a rumour that his faithless friend was courting her. It was in sparing and saving for Linnæus at that early time that Elizabeth set the root of that habit of stinginess which so impaired their pleasure and took the gloss off their splendour.

Linnæus was glad at this period of his life to be able to add to his work that first of a man's duties to his country, the converting of a parcel of waste land into a productive tract, calling fruitfulness out of a stony wilderness. Those rocks, so like his Småland home, where Zoega and Fabricius sought their insects and rare mosses, it was the poem of his life to make beautiful and profitable, an adornment to Sweden. It was more than 'stubbing up Thornaby waste.' Here he wrought out his Virgilian motto, 'Famam extendere factis.' 'My life is not being spent in vain, much less spent in evil.' To show forth God's handiwork is an exalted and ennobling task.

Thus ever working and enjoying life out-of-doors and within, he went on watching and promoting the growth of natural science, first as foster-father, then as tutor, the babe growing to a young giant under his guidance. Still he ruled it with his strong hand, though he had frequent warnings of the decay of his own powers. He seems almost to have *enjoyed* bad health, he apologised for it so pleasantly to other people.

Nought cared this body for wind or weather  
When youth and I lived in it together.<sup>1</sup>

---

<sup>1</sup> Coleridge.



He writes to his old friend Menander, at Stockholm, 'May 8, Upsala, 1760: Nothing would give me greater pleasure than to see you, my dear friend, for a few days, at my little country seat, three-quarters of a mile' [Swedish] 'from Upsala, and to converse with you once more before we leave the world. Pray keep your word, and come if you can.' He now always signs himself 'Carl v. Linné,' a mongrel style of signature. Archbishop Menander had undertaken the task of preparing his great friend's memoirs for the world. For this purpose the diary was prepared; but the work was never carried out. Linnæus gave all his best duplicates in fossils to Archbishop Menander, who particularly enjoyed the study of fossils.

'In 1764 the sixth edition, by far the most complete, of the "*Genera Plantarum*" was published; nor did its author ever prepare another. It was intended as a companion to the "*Species Plantarum*," but was greatly superseded by the most concise and commodious short characters of genera given in the vegetable part of the "*Systema Naturæ*."'<sup>1</sup> So full were his thoughts and waking dreams of his beloved science, that Linné, writing to Mr. Edwards, April 1764, on his papers and pictures of 'Vegetating Wasps,' says, 'My thoughts are so taken up with these productions that I cannot sleep without dreaming of them.' It is true, he was not disturbed by his four daughters practising fathoms of sonata.

May 3, 1764.—He had a dangerous attack of pleurisy,

<sup>1</sup> Smith.

of which he says Rosen cured him; and he was able to go to recruit his strength at his beloved Hammarby, now finished, and ready to receive him.<sup>1</sup> 'It is pleasing to read in his private memoranda the gratitude he expresses to his old rival Rosen for his skill and attention during this illness, and the expressions of intimate regard by which they were now become attached to each other.'<sup>2</sup> This illness should have warned him 'against all attempts to work at more than human speed'; but, not to lose a moment when the disease was subdued, he brought with him his MSS. to Hammarby, and prepared the descriptions of the queen's museum for publication.<sup>3</sup>

In July 1764 a great housewarming took place at Hammarby in the shape of a double family festival—Linnæus's silver wedding,<sup>4</sup> which was celebrated on July 9; and on July 12, his eldest daughter, Elizabeth Christina, was married to Carl Frideric von Bergencranz, a lieutenant in the Upland regiment of cavalry.

The festival of the silver wedding was honoured by the presence of the Prince Royal, afterwards Gustavus III.,

<sup>1</sup> Diary.

<sup>2</sup> Smith.

<sup>3</sup> *Museum S:cæ R:cæ Mtis. Ludovicæ Ulricæ Reginaë Suecorum, Gothorum, Vandalorumque*, &c., printed Holmiæ, 1764. The Latin preface is dated Hammarby, July 30, 1764. A Swedish preface precedes this. It is a stout octavo of 720 pages, somewhat carelessly written, and in no way equal to the magnificent companion work on the king's museum. The British Museum copy is bound up with the abridged edition of the *Museum Adolphi Friderici Regis*, published the same year.

<sup>4</sup> Silfer Bröllup.

who was chancellor of Upsala University from 1764 to 1771, and who frequently went to Hammarby. The tables were spread with many interesting trophies. A service of porcelain was sent to Linnæus from China, purposely manufactured for him, and having the *Linnæa borealis*, in a Chinese interpretation, on the outside, a portion of which is still displayed on a table at Hammarby. Beside this was the finely carved rhinoceros-horn, all wrought in Chinese carving with lotus and nelumbium flowers and leaves, made expressly for him.<sup>1</sup> Here, seated on the two brocaded wedding-stools, at the head of the six tables set end to end in two lines, Von Linné and his wife entertained their family and friends, royalty, and all the professors and chief dignitaries of Upsala.

The family pleasures were enhanced by the fact of Samuel Linnæus, the pastor of Stenbrohult, having written a work on the breeding of bees (published in 1768), which met with so favourable a reception that they gave the author the name of King of the Bees.<sup>2</sup> This promising manuscript was shown to Linné, by the author, who now also brought his wife to visit the chief of his family. Songs were sung, both national and in Latin. Glasses were clashed, glasses full of wine bottled twenty-five years ago. Ah, what had happened in those years! What changes had taken place in the world and in themselves! The enthusiasm of twenty-five years ago now seems the dream instead.

<sup>1</sup> Engraved in Smith's book.

<sup>2</sup> *Bi-Kung*, Stoevers.

This festival was the culminating point of Linnæus's life, his epoch of full achievement.

In 1765 young Carl von Linné took his degree of M.D.; it is not stated where, nor if the regulation concerning the necessity of graduating abroad was still in force; but shortly after this time he began a tour in Europe, seeing a good deal of Haller and his son, and he now began to give lectures.

In 1765, Linné's eldest daughter, who married (now) Captain von Bergencranz, returned afterwards to her parents, and lived constantly in their house.<sup>1</sup> She had an infant daughter. We do not hear if Fru von Bergencranz was a widow, or if her husband was ordered away on military service. She seems to have been a superior woman, although Fabricius does not admire her much. Her remarks on a luminous appearance of the Indian cresses<sup>2</sup> were considered worth inserting in a natural-history magazine of that period. Sparks such as arise from fulminating powder were first observed by Fru Bergencranz, when walking in her father's garden at Hammarby. She mentions the appearance as being visible only in the dusk of evening, and ceasing when total darkness came on. Mr. Wilckes considered this phenomenon of an electrical nature. Lowell speaks of phosphorescent wood as a phenomenon familiar to most country boys. In speaking of electric clouds and phosphorescent mountains, the 'Times,' September 1, 1885, says, 'Some rare instances are on

<sup>1</sup> Fabricius.

<sup>2</sup> *Nasturtium*.

record of forests of resinous trees becoming phosphorescent in stormy weather.'<sup>1</sup>

'Luminous appearances have been observed in certain plants. These have been long noticed in the lower classes of plants, such as fungi. Decaying wood, in which fungi are developed, is sometimes luminous.' Many agarics are vividly luminous. Mr. F. Drummond describes one, near the Swan river, which emitted at night a phosphorescent light sufficient for him to read by. The younger Von Linné, confirming his sister's observations, states that the flowers of nasturtium, orange lily, and African marigold at the end of a hot summer day give out intermittent light. Other observers have noticed this with the common marigold and *Papaver pilosum*, the sunflower, French marigold, *Eurothera* and *Arum*. It is to be remarked that the flowers said to be thus luminous are all more or less orange colour, and that the phenomenon takes place in still warm summer evenings towards twilight.

In 1766 Linné was ordered to arrange for the last time her Majesty's cabinet.<sup>2</sup> This meeting in old age between the queen and her great and valued subject reminds one somewhat of the last conferences of Queen Elizabeth with the aged Burleigh. Respect had grown to veneration, each of the other. They had helped to make history together. There is something indescribably pathetic in these historical scenes. His king was dying—soon after this Von Linné's revered queen be-

<sup>1</sup> Balfour's *Botany*.

<sup>2</sup> Diary.

came a widow. Linné saw his early friends and the associates of his riper years fallen, or dropping on all sides, and exclaimed, 'Ego infelix socius resto.'<sup>1</sup> 'At sixty years of age proper names began to be forgotten by him whose head had contained more of that kind than most other persons.'<sup>2</sup> He now more than ever felt the value of his habit of noting down everything he observed in its proper place immediately and never trusting it to memory.

He alludes to this fading of the memory in his saying, 'Ego infelix socius resto.' But those earlier memories remain, which people an old man's last days with his earlier companions.

Yet he had not much cause to repine against fate; he was honoured at home and abroad. Ellis writes to him December 1770: 'Sir James Gordon always toasts your health as the king of botany by the name of 'My Lord Linnæus,' and that before he drinks the king's health.'

Linnæus still occupied himself with solid scientific work. 'His "Systema Naturæ," which had grown from a few tables to two, and finally to three volumes, was finished in 1768. In this performance Linnæus is the methodiser and nomenclator of all the known productions in the three kingdoms of nature. The twelfth immensely enlarged edition of the "Systema Naturæ" appeared in the author's lifetime.'<sup>3</sup>

Linné writes to Ellis in August 1771: 'I was de-

<sup>1</sup> Brightwell.

<sup>2</sup> Diary.

<sup>3</sup> Jackson.

tained a great while at Stockholm in consequence of my deputation from the Academy to wait on our new king.

The correspondence between Ellis and Linnæus was pretty close at this epoch; again in 1771 Ellis writes: 'Poor Miller, through his obstinacy and impertinence to the Society of Apothecaries, is turned out of the botanical garden of Chelsea. I am sorry for it, as he is now seventy-nine years of age: they will allow him his stipend, but have chosen another gardener. His vanity was so raised by his voluminous publications that he considered no man to know anything but himself. Our booksellers have made fortunes by their imposition of new editions of Miller's voluminous "Dictionary," the whole or useful parts of which might have been comprehended in a book of the size of your "Genera Plantarum."' The mention of Miller must have called back many memories of early days.

Linné's biographers state that 'in the latter period of his life the king' [or, more probably, the university] 'allowed him a double salary with his son.' Perhaps this means that his son received the full salary of a professor. It was the usual practice of the university after thirty years' service to give the professor his full pay as retiring pension, and it seems the new professor had only the pay of adjunctus till the death of the former professor. This, as we have seen, was so in the case of Roberg and Linnæus. The younger Von Linné was already at Copenhagen in the summer of 1771.



He travelled for the benefit of his health, much impaired by hypochondria, through the southern provinces of Sweden, crossed the Sound, and, not having leave to go farther, remained two days at Copenhagen. He owed afterwards to a friend that he then felt a strong temptation to range all over the world, had not the love which he bore to his father induced him to go back.<sup>1</sup>

After a period of over thirty years Linné entreated the king graciously to accept his resignation. The king declared that Upsala must not lose its chief splendour by his retreat. He gave him double salary and two farms that he might bequeath to his heirs, upon the single condition that he would still remain nominal Professor of Botany, with no work, but only holding the dignity of the office.

The monumental pomp of age  
Was in that goodly personage,

says that mine of mottoes—Wordsworth. That he was Upsala's chief splendour there is no doubt. Kings, queens, and the greatest people vied with each other in paying him honour. 'The Empress of Russia and the King of Denmark made him presents.'<sup>2</sup> Maria Theresa and the kings of Europe complimented the Swedish ambassadors upon him. He was elected a member of twenty academies—three in his own country. The Duc de la Rochefoucault, the representative of an order fast dying out—the stately French *noblesse*—

<sup>1</sup> Smith.

<sup>2</sup> Diary.

viewed him with the greatest admiration, and Governor Tulbagh sent him another and an incomparable collection of plants from the Cape, where his pupil had formerly not been permitted to collect for him.

Linnæus was one of the first who contended that the sea is decreasing and that the continents are increasing; basing his theory upon his Scandinavian observations, where that the land is gradually rising is a certainty. He says he went back as far as the existence of Paradise, which is one of those private-diary sort of sentences that convey more to the writer's mind than they do to another's. 'Linné would willingly have believed the earth to be older than the Chinese assert had the Scriptures allowed him'<sup>1</sup>—that is, the Scriptures as they were read through the darkened glasses of prejudice. 'He tried to explain the stratification of mountains. He read the earth, minerals, vegetables, and animals as in a book.' He ends the notes for his 'Autobiography' with a psalm: 'The Lord hath caused him to spring from a trunk without root, and planted him again in a distant and more delightful spot, and caused him to rise up to a considerable tree. The Lord inspired him with an inclination for science, so passionate as to become the most gratifying of all others.' There follows a long list of what the Almighty has done for him: 'honoured him with the titles of architect, knight, nobleman, and with distinction in the learned world. . . . Permitted him to visit His secret

<sup>1</sup> Diary.

council-chambers. Permitted him to see more of the Creation than any mortal before him.' The world was beginning to be breathed upon by 'arguments which if they do not convince at least stimulate the mind. Still Linnæus held it necessary to use very guarded language respecting the Deluge. Some of his electrical theories are a wonderful forelumining, rather than foreshadowing, of the marvels of galvanism and modern electric science. These notions were considered absurd in his day, even by his admirers. Times and opinions have changed; these ideas were really rays from the Polar Star.

'His hypotheses indicate the brilliancy of his imagination and at the same time the strength of his judgment. Although it was his life-long habit to systematise all natural objects, his mind could never find rest in the finitude of a system. He dared not, as he himself assured me,<sup>1</sup> publish during his life many important observations relating to the general arrangement of nature, because he was afraid of the excessive violence of the Swedish divines, who frequently, too faithful and bigoted to their own arguments, do not consider that nature, as well as revelation, proclaim in unison of principle the hand of that Great Master who formed both.' The truth most of us venture to hold now is that the Bible is God's book and nature is the illustration of it. Linné concludes the tract which records the occurrences of his life with these words, 'The Lord was with thee wherever thou didst go.'

<sup>1</sup> Fabricius.

## CHAPTER XXIII.

## THE LAST.

Thy creatures have been my books, but Thy Scriptures much more. I have sought Thee in Thy fields and Thy gardens. I have found Thee in Thy Word and Thy temples.—BACON.

IN 1771 Linné still led an active bustling life, and though his powers were considerably on the wane, he published this year the '*Mantissa Altera*,' which Sir J. Smith says shows several lapses of memory. 'We have no volume published by Linné later than this, which may be looked upon as his botanical testament.'<sup>1</sup>

On December 14, 1772, in the sixty-fifth year of his age, he delivered the customary oration upon his resignation as rector of the Assembly, which office he had already held three times. This was his last public exertion. His subject of this, his fifth public oration, was on '*The Delights of Nature*,' a speech so beautiful, that the students of the different Swedish 'nations' in the university sent deputies to him next day to entreat its translation. The original oration '*Deliciæ Naturæ*' was written but a few days before it was

<sup>1</sup> Smith.

recited, and under pressure of illness as well as of haste. It is energetic and interesting. He gives a figurative description of the three kingdoms of nature, with allusions to the various analogies that subsist between them. After complimenting the students on the marked propriety of their conduct during his rectorship, he proved his favourite pursuit to be not like the ordinary and perishable enjoyments of life, but one of the richest and most permanent sources of pleasure which the kindness of Providence has opened to the human mind. Alas ! Linné knew nothing of art.

In 1773 he was chosen member of a committee to superintend the better translation of the Bible, and the task of ascertaining and describing the plants and vegetable productions mentioned in Holy Scripture was entrusted to his care. This called up sadly sweet reminiscences of Dean Celsius and his own early days, and of his gifted pupil Hasselquist, whose work was preserved and illustrated by himself. All his own most important works begin and end with some verse from the Scriptures. He honoured the Lord who ‘permitted him to visit His secret council-chambers.’ None knew better than he that what we do of ourselves is not the best we can do; we must, for the best, seek for the Divine strength and light to help us.

It was too late for him now to begin to write the natural history of Lapland, which he had promised the world and himself to do. ‘The body, that machine for acting will,’ was out of gear and would work no longer.

He felt, as the greatest men must do, that others must arise—

And fill out full their unfulfilled careers,  
Unravelling the knots their baffled skill  
Pronounced inextricable, true !—but left  
Far less confused. A fresh eye, a fresh hand,  
Might do much at their vigour's waning point;  
Succeeding with new-breathed, new-hearted force,  
As at old games the runner snatched the torch  
From runner still: this way success might be.<sup>1</sup>

*Paracelsus.*

Linnæus is an example of what Kingsley calls 'over-mentation.' At this comparatively early age, as reckoned by the ages of our great statesmen and others who have not perhaps had to invent and work out a science for themselves, he found he 'must never think of trying to return to the old passionate speed of work.'

Linnæus could never bear a slow man; this explains why, notwithstanding his attachment to his son, he employed him less in his writings than he did several of his pupils. He still continued to give demonstrations in the botanical garden at Upsala, and worked at his botanical arrangements. Gustavus III. carried a present of seeds from Louis XV. to Linné with his own hand on one of his frequent visits to Upsala.<sup>2</sup>

In 1774 Lieut-Colonel Dahlberg<sup>3</sup> brought a collection

<sup>1</sup> 'When he has turned down the hill at last younger spirits will rise up after him and catch the lamp of Truth, as in the old lamp-bearing race of Greece, out of his hand before it expires, and carry it to the goal with swifter and more even feet.'—KINGSLEY.

<sup>2</sup> The medals of Gustavus show him to have had his mother's alert, animated look.

<sup>3</sup> The same who went to Surinam, &c., with Rolander?

of plants to the King of Sweden, the flowers beautifully preserved in spirits of wine. They still bore the fresh appearance of nature to such a degree that the most minute part of their flowers could be accurately examined. The king presented the collection to Linné. The joy of the sight operated with magical power on his reduced health. He composed a catalogue which contained thirteen new genera and over forty new species. To a lofty, beautiful American tree in the collection he gave the name of *Gustavia augusta*.

In May 1774, while lecturing in the botanical garden, he had an apoplectic stroke, and fell into a swoon, from which he did not recover for a long time. A letter which Linnæus had written thirty-four years before this catastrophe is said to have either occasioned or accelerated this fatal disease. In 1773 appeared the first volume of letters, written in Latin by men of literary eminence, to Baron Haller. Linné received this volume, and found that his letters, and those particulars of his youth which he had formerly entrusted to sacred friendship and confidence, were all inserted. Amongst others, he read, with indignant surprise, a letter in which he had formerly described the history of his love,<sup>1</sup> and added many other private transactions. He had no sooner read this letter than he felt an extreme agitation; the apoplexy succeeded. His son was again away at this time, travelling in Germany and elsewhere

<sup>1</sup> Extracts from these letters are in Chapters IX., XIII., XIV., and XV. of the present work.



on the Continent; but he returned very shortly afterwards.

Linné writes to Peter Cusson, M.D. of Montpellier: 'The accelerated approaches of old age have long oppressed me, and I have been still more disabled by the severest winter I ever knew. A slight paralytic stroke attacked me on one side; and though in due time I recovered from this attack, it has left me feeble and timid; nor have I ventured for the last half-year to enter my museum,<sup>1</sup> or to mount up to it. Even if I live, I do not propose to visit it till a milder season has rendered the air more salubrious.'

'His soul, nearing the land above,' still drew, as the pole star attracts the needle, crowds to Upsala. Gieseke writes to Linné, February 1776, about quarters, 'I fear the Italian and other students, said to amount to more than a thousand, will already have engaged all the best lodgings. What a profit to the town!'

The young Princess Caroline Louisa of Hesse Darmstadt, Margravine of Baden, then a charming girl of twenty-four, loved Linné and his works. She wrote to him in August 1775 thanking him for a Surinam plant he had named after her. She again wrote, by Björnstahl, from Hesse Darmstadt asking Linné, or his son if he were himself unable to travel, to pay her a visit. 'She promises you,' says Björnstahl, 'a fine and commodious residence and hangings as beautiful as those at Hammarby. For I mentioned to her Highness what fine flowers had

<sup>1</sup> On the hill in the garden at Hammarby.

been sent you from England, and that you had decorated your walls with them at Hammarby. She has drawn the plants for the illustrated edition of the "*Species Plantarum*," many of them finely, with her own hand, and had them engraved, each plate costing four louis-d'or. The number of the plates will amount to 10,000. She examines every plate with the most scrupulous attention, and corrects the slightest fault or blemish; she afterwards paints the plants in lively colours' (colours them like life). She sent Linné one of the plates, representing a veronica, by way of specimen. 'She will be glad if it meets with your approbation,' adds Björnstahl. No more than 138 plates of the Margravine's work were finished, and these were never published.<sup>1</sup>

Schultz, the Hamburg mineralogist, visited Linné in 1775 by the Prince Royal's request (then just newly king), and showed him the extraordinary opal called *Oculus mundi*, which Linné had described (unseen) from Wallerius's mineralogy, of which two specimens hitherto had been seen in the British Museum and there only. He also showed him the rainbow-coloured agate, the brilliancy of whose colours surpass the most beautiful gems of the East. Enraptured with admiration at the beauty of this stone, Linné began in a strain of enthusiastic language to expatiate on the magnificence and grandeur of the Creator, and how Nature best proclaims a God. An account by Schultz of his visit on October 25, 1775, to Linné at Upsala is interesting: 'The younger Linné was

<sup>1</sup> She died in 1783, aged thirty-two.

somewhat taller than his father, but at that time less corpulent. His delivery was fluent, but mixed with a certain cold indifference. It appeared as if his exertions were rather a strict performance of the duties of his station than a genuine zeal flowing from a natural fondness for his science; his father, on the contrary, betrayed, in his conversation upon subjects relative to natural history, an enthusiastic predilection and a most scrutinising zeal. The lecture which the younger Linné gave was upon the classes of plants with five stamina. Many living ones were exposed in garden pots in the lecture-room, then taken out of the mould, divided into small branches, and distributed among those of the audience who were the most attentive.

‘When the lecture-hour had expired, the younger Linné showed me the Cassowary from Ceylon, of which the late queen-dowager of Sweden had made a present to his father.<sup>1</sup> This large bird was uncommonly tame, moved about with a grave strut, and eyed attentively everybody that would notice him. He had in his company two English bantams, with their bantlings. The gigantic Cassowary showed himself very complaisant and attentive to his little companions, and looked down on the ground at every strut he made, as if apprehensive lest he should crush any of his little clucking companions.’ Old men are always ready to be entertained with light comedy. Linné had always relished the comic ways of his pet monkey and other animals, their ‘inimit-

<sup>1</sup> This was written after Louisa Ulrica’s death. She died in 1782.

able fun,' as Kingsley calls it, who also enjoyed watching the movements and manners of animals. The family of the *Crustacea*, especially the soldier crab, and others, were an inexhaustible source of amusement to him. It is most laughable to watch the ways of a pet tortoise on a London balcony—how he gallops, tortoisescuely, towards fresh lettuces. The fabulists, Kriloff and others, and the author of 'Rheinecke Fuchs' show us how many volumes of tales can be extracted from the hints afforded by their ways. Linné especially enjoyed these amusements in his later years.

Another wedding in the family added to his happiness as a father. 'The Danish Professor Vahl is reported, when a student, to have made an impression on the heart of Linné's youngest daughter, Sophia, which her father did not think it proper to countenance, and which is supposed to have prevented his showing that favour and encouragement to the young Dane which his acuteness and zeal in botanical studies certainly deserved. Sophia, the favourite daughter, married at eighteen, in 1775, Samuel Dusc, procurator of the senate (or syndic) of the university of Upsala.'<sup>1</sup> Louisa and Sara Christina lived unmarried at Hammarby.

Linné still took a lively interest in the politics of the scientific world, and was eager to hear all about the researches of Haller, and others of his German and English correspondents, from his son, who had made a prolonged tour in Europe. 'Linnaeus's works had the

<sup>1</sup> Smith.

misfortune of being considered at Rome as heretical and materialistic productions. In 1758 they were inserted in the catalogue of forbidden books. Under Clement XIV. this was changed.' Linné in 1773 mentions this occurrence in a letter to Chevalier Thunberg, who afterwards succeeded him at Upsala. 'The Pope, who fifteen years ago ordered those of my books that should be imported into his dominions to be burnt, has dismissed the professor of botany who did not understand my system, and put another in his place, who is to give public lectures according to my method and theory.'

Not long before his final illness he wrote to Mr. Pennant, the zoologist. In reply to his letter, Mr. Pennant entreated him not to forget his promise of writing the natural history of Lapland, which he had given in the preface to his '*Flora Lapponica*.' He replied, 'It is now too late' (*Nunc nimis sero inciperem*).<sup>1</sup>

The date of the last letter Linnæus wrote is May 26, 1776.

The vital force of mind and body was expended; he now needed renewal in the rest of Hades, where there is no wear and tear—the preparation for renewed youth and growth.

'He was a wretched ruin in intellect and bodily powers long before he died,' says Pulteney in a sweeping sentence. A more graphic account of his condition comes from his own hand. In 1776 a paralytic stroke deprived him of the use of his right side. He lingered

<sup>1</sup> Brightwell.

more than a year after this, residing at Hammarby. He thus with touching cheerfulness describes his situation in his diary. 'Linnæus limps, can hardly walk, speaks unintelligibly, and is scarce able to write.' He used to be carried up the hill to his museum, and had great delight in examining rarities and new productions brought by M. Mutis from New Grenada &c., and by his other pupils from the Cape of Good Hope and Asia.

The dried specimen lived again to him, and was still able to 'bring all heaven before his eyes.'

'Linnæus had already prepared great part of a third botanical appendix, or "Mantissa." To this his son added (later) the communications of Thunberg from the Cape, which his father, "with half-extinguished eyes," as Condorcet beautifully relates, had just been able to glance over, but not to describe.'

Linnæus broke down: he dropped like the begonia at the last—the flower that had always interested him so much, with its male and female flowers so graceful and so differing. The common begonia, that most interesting and elegant of plants, is jointed all the way up, and as it withers the joints become separated and in shape like the bones of the human limbs; they drop apart, and fall like dry bones upon the ground. This family is a botanical study in itself. 'Many begonias are remarkable for the production of adventitious buds in great numbers from various parts of their surface. The relations of this interesting family and numerous order

<sup>1</sup> Smith.

have been variously conceived by different authors, but they appear to be *Cucurbitaceæ*.<sup>1</sup>

Into a darkness quieted by hope ;  
Plucker of amaranths grown beneath God's eye  
In gracious twilights where his chosen lie.<sup>2</sup>

A good man's biography whispers to us to 'bear and forbear even as he did, to endure to the end,' so that one day we may meet and know this friend of our souls.

Linnæus died on January 10, 1778, 'aged seventy, seven months and seven days, with the nation to guard his good name.' The remains of this celebrated man were interred at Upsala Cathedral, and the funeral procession was composed of members of the whole university, the pall being supported by sixteen doctors of physic, all of whom had been his pupils. A general mourning took place at Upsala, and the king, Gustavus III., ordered a medal to be struck expressive of the public loss, one side of which exhibits the bust of the great naturalist, with his name; the reverse shows Cybele in an attitude of grief, holding in her left hand a key, and surrounded by animals and plants.

He will, and so shall we, gain the key to all knowledge in the life to come. Second childhood comes to us here, the second manhood in the life eternal.

So oft a better life this life conceals.

The king likewise attended a meeting of the Royal Academy of Sciences at Stockholm, of which Linnæus had been the first president, and in his speech from the

<sup>1</sup> Trans. Linn. Society.

<sup>2</sup> *Sordello*.



throne, when mentioning his foundation of new university buildings at Upsala, he spoke of the death of Linnæus as a public calamity. 'I have also instituted there' [at Upsala] 'a new professorship. But I have lost, alas! a man whose celebrity was as great all over the world as the honour was bright which his country derived from him as a citizen.' Long will Upsala remember the celebrity which it acquired by the name of Linnæus! His magnitude was felt in the hollow space he left.

The monument of Linnæus in the cathedral is in the Banér Chapel, adjoining the north aisle. It consists of a pyramid of red porphyry from the Elfdal, which had so much engaged his attention in his Dalecarlian tour, bearing a bronze portrait medallion by Sergel, with the inscription: CAROLO A LINNÉ BOTANICORUM PRINCIPI AMICI ET DISCIPULI. 1798.

The remains of the great naturalist repose under the organ-loft at the western end of the cathedral, where a plain slab of the pavement is inscribed: OSSA CAROLI A LINNÉ EQ. V. AUR. MARITO OPTIMO, FILIO UNICO CAROLO A LINNÉ SUCCESSORI ET SIBI SARA ELISABETA MORÆA.

His works are his best monument and his glory, a cathedral of his own building. 'He cautiously avoided that common error, of building his own fame on the ruin of another man's.'<sup>1</sup>

A medal of Linnæus lies within the foundation-stone of the new botanical building in the garden at Upsala, and an inscription to his memory on copper.

<sup>1</sup> Smith.

‘In Gustavus III’s letter of donation to the university of Upsala, he directed that a marble statue of Linnæus should be placed in the lecture-room, as if to signify whose doctrines and principles were to be the guidance of future professors, and to testify the obligations of the science of botany to its immortal reformer.’<sup>1</sup>

The chevalier Thunberg, his pupil, succeeded Linnæus at Upsala.

After his father’s death, the younger Linné, who was now thirty-seven years of age, purchased from his mother, at her own price, his father’s MSS. and collections, which he ought to have inherited; he also travelled for two years, pawning his own herbarium for fifty or sixty pounds to defray his expenses. He travelled in Holland, England, France, and Germany. In the spring of 1782 Carl visited Holland, tracing with filial piety every vestige of his father’s steps at Hartecamp and elsewhere, and receiving, as he had done at Paris and London, ample contributions for his herbarium, library, and museum of shells and insects.<sup>2</sup>

The manner in which Sir H. Sloane had received the father, and the reception the son now met with,

<sup>1</sup> ‘We may estimate the numerical part of Linnæus’s work, in one department, by the succeeding catalogues of plant species. Theophrastus reckons 500; Pliny, 1,000; Greek, Roman, and Arabian botanists, 1,400; Bauhin, 6,000; and Linnæus, 8,800. Since his day the list has enlarged to 89,000 and upwards’—BALFOUR. This was written in 1853. The list has gone on continually enlarging. Linnæus made it possible for man to cope with the infinity of Nature.

<sup>2</sup> Smith.

formed a striking contrast. Carl von Linné stayed with Sir Joseph Banks. He witnessed the death of his friend Dr. Solander. Even at Paris Linnæus had now his followers, who, despising all national prejudices, dare to admire truth and genius wherever they find them.<sup>1</sup>

Louis XVI. made Carl a splendid present of the 'Recueil des Plantes, gravées par Ordre du Roi,' three large folios with five hundred copper plates. He had the satisfaction of first learning personally the greatness of his deceased parent's celebrity, by the universal respect paid to him by foreigners. Buffon so honoured Linnæus, that when his son expressed a wish to see the Royal Botanic Garden, he wrote that 'on that day he would be spoke to by none but him.'<sup>2</sup>

Carl spent the winter in Paris, and went to Holland in the spring of 1782. He travelled through Westphalia and Lower Saxony, and spent eighteen days at Hamburg with his old friend Professor Fabricius, the entomologist. Copenhagen again welcomed him; thence he went to Gothenburg. In August 1783 he made a journey to Stockholm, when he was taken ill of a bilious fever; this abating, he returned to Upsala. He had a relapse, and then another, which were attributed to his visiting too early and too long his natural-history collections, which were kept in a damp and cold apartment. Did the parsimonious Fru Linné afford him no fire?

<sup>1</sup> Smith.

<sup>2</sup> De Candolle was born the same year Linnæus died. In that same twelvemonth Voltaire, Rousseau, Haller, all died.

He died November 1, 1783, at forty-two, of an apoplectic stroke, leaving no issue. He was interred November 30, 1783, close to his father's remains, and the coat of arms was broken to pieces on his tomb, as is usual in Sweden on the extinction of the male line.<sup>1</sup> There was a public funeral oration, and the gardener of the university strewed flowers over the tomb which shelters the Linnæi. Nature broke the family symbol too. The Linden tree of Linnbult withered from this day.

Linnæus's brother Samuel was still alive when Stoever wrote his 'Life.' He had no sons. 'It is said that at the extinction of the Lindelius family one of the three branches of the old lime-tree withered and died; with the death of the last daughter of Linnæus a second ceased to put forth its golden leaves, while when the last of the Tiliander family was called away all vegetation ceased.' The three races of Jöns are now 'out'; but the trunk of the lime-tree still stands o'er-shadowing, with its three sapless branches, the old farmhouse; nor would the peasant owner, for its weight in gold, allow one twig to be cut. 'It shall remain for ever,' say the villagers; 'as long as the name of our great Carl is unforgotten, we'll preserve the old lime-tree.'<sup>2</sup> I suspect this is a legend; it is a very pretty legend all the same. Linnæus's botanical system has died out likewise: it was broken up soon after his death.

<sup>1</sup> Carl von Linné's arms did not bear the motto *Famam extendere factis*.

<sup>2</sup> H. Marryatt.

*Sir J. Banks to Sir J. E. Smith.*

Christmas Day, 1817.

‘I fear you will differ from me in opinion when I fancy Jussieu’s natural orders to be superior to those of Linnæus. I do not, however, mean to allege that he has even an equal degree of merit in having compiled them. He has taken all Linnæus had done as his own ; and, having thus possessed himself of an elegant and substantial fabric, has done much towards increasing its beauty, but far less towards any improvement in its stability.’

Linnæus’s widow survived to extreme old age.

On the death of the younger Linné his mother wished to sell the museum and library to Sir Joseph Banks, at the price of 1,000 guineas. On his refusal, by his advice they were bought by Sir J. E. Smith for 1,029*l*. The sale was precipitated before the return of the King of Sweden, then on his travels,<sup>1</sup> lest he should oblige the heirs to dispose of the whole cheaper to the University of Upsala. This would have been the case, as it appears from the king’s exertions on his return : he sent a courier to the Sound and a vessel by sea to intercept the ship that was bearing away the prize

By thy wild and stormy steep, Elsinore !

The collection, packed in twenty-eight great boxes, reached England in safety, and passed the Custom House unexamined. The letters to Linnæus are about three thousand.

<sup>1</sup> King Gustavus III. was then in France.

In 1788 Sir J. E. Smith drew up the plan of the Linnæan Society, which obtained a royal charter in 1802. At Sir J. Smith's death Linnæus's treasures were offered to the Society and bought for 3,000 guineas. They are now in the Society's rooms in Burlington House, London. 'The herbarium is practically in the same state in which Linné himself last used it.'<sup>1</sup>

<sup>1</sup> *Encycl. Brit.*, Ninth Ed.

THE END.







